SCD-C222ES

SERVICE MANUAL

US Model
Canadian Model

Ver. 1.1 2006.08

Model Name Using Similar Mechanism	SCD-CE775
CD Mechanism Type	CDM59A-DVBU5A
Base Unit Name	DVBU5A
Optical Pick-up Block Name	KHM-230AAA

SPECIFICATIONS

When a super audio CD is played

Playing frequency range 2 Hz to 100 kHz

Frequency response 2 Hz to 50 kHz (–3 dB)

Dynamic range 104 dB or more

Total harmonic distortion rate 0.0018 % or less

Wow and flutter Value of measurable limit (±0.001 % W. PEAK) or less

When a CD is played

Frequency response 2 Hz to 20 kHz

Dynamic range 99 dB or more

Total harmonic distortion rate 0.0020 % or less

Wow and flutter Value of measurable limit (±0.001 % W. PEAK) or less

Output connector

	Jack type	Output level	Load impedance
ANALOG OUT	Phono jacks	2 Vrms (at 50 kilohms)	Over 10 kilohms
DIGITAL (CD) OUT OPTICAL*	Square optical output connector	–18 dBm	(Light-emitting wave length: 660 nm)
DIGITAL (CD) OUT COAXIAL*	Coaxial output connector	0.5 Vp-p	75 ohms
PHONES	Stereo phone jack	10 mW	32 ohms

*Output only the audio signals of the CD

General

Laser Semiconductor laser
(SACD: λ = 650 nm)
(CD: λ = 780 nm)
Emission duration:continuous

Power requirements 120 V AC, 60 Hz

Power consumption 26 W

Dimensions (w/h/d) 430 × 135 × 400 mm
(17 × 4 1/4 × 15 3/4in.)
incl. projecting parts

Mass (approx.) 7.5 kg (16 lbs 9 oz.)

Supplied accessories

- Audio connecting cord
  phono jack × 2 (Red and White) ⟷ phono jack × 2 (Red and White) (2)
  phono jack × 1 (Black) ⟷ phono jack × 1 (Black) (2)
- Monaural (2P) mini-plug cord (1) (Connecting cord for CONTROL A1 II)
- Remote commander (remote) RM-SC500 (1)
- R6 (size-AA) batteries (2)

Design and specifications are subject to change withoutnotice.

SUPER AUDIO CD PLAYER

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Home Audio Division
Published by Sony Techno Create Corporation

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Notes on chip component replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

Flexible Circuit Board Repairing

- Keep the temperature of the soldering iron around 270 ˚C during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety check before releasing the set to the customer:
Check the antenna terminals, metal trim, “metallized” knobs, screws, and all other exposed metal parts for AC leakage.
Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microamperes.). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers’ instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The “limit” indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2 V AC range are suitable. (See Fig. A)

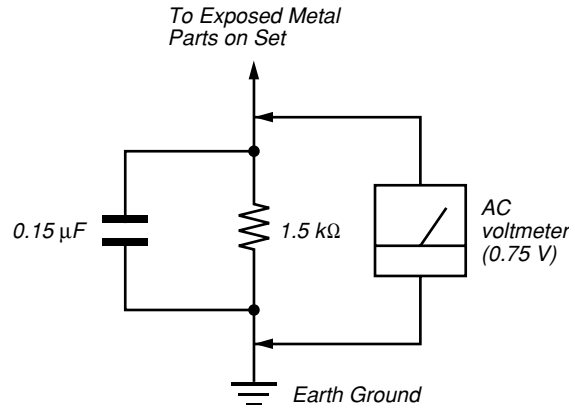


Fig. A. Using an AC voltmeter to check AC leakage.

CAUTION
Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

This label is located on the LEFT exterior.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

SECTION 1
SERVICING NOTES

NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

The laser diode in the optical pick-up block may suffer electrostatic break-down because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.
During repair, pay attention to electrostatic break-down and also use the procedure in the printed matter which is included in the repair parts.
The flexible board is easily damaged and should be handled with care.

NOTES ON LASER DIODE EMISSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe from more than 30 cm away from the objective lens.

LASER DIODE AND FOCUS SEARCH OPERATION CHECK

Carry out the “S curve check” in “CD section adjustment” and check that the S curve waveforms is output three times.

CLEANING OF OPTICAL PICK-UP LENS

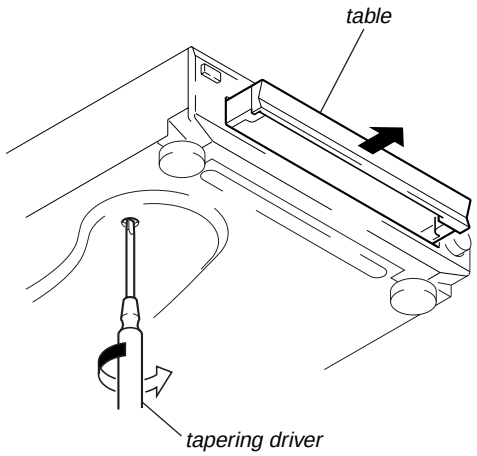
In cleaning the lens of optical pick-up, use the air blower.
Never use a cotton swab for cleaning the lens of optical pick-up, which otherwise causes a trouble.

CHECKING SIGNALS OF CD SECTION

Efficiency to check each signal of CD section is increased when the test points on the MAIN board are used.
Refer to 5-8. WAVEFORMS CHECK (page 27)

HOW TO OPEN THE DISC TABLE WHEN POWER SWITCH TURNS OFF

Insert a tapering driver into the aperture of the unit bottom, and turn it in the direction of the arrow (to OUT direction).



** To close the disc table, turn the tapering driver in the reverse direction (to IN direction).*

RESETTING OPERATION AT POWER ON

If the power is turned on with a disc loaded in the set, a sequence of operation as shown below will be performed.
(The operation varies depending on the type of disc) Condition: continue mode

(1) CD

1. Sled reverse move (sled in)
2. Disc detect
3. IC setting for CD
4. Servo error signal offset auto adjustment
5. Spindle kick for LD on
6. LD on
7. Focus search
8. Focus servo on
9. Spindle kick
10. Spindle servo on
11. E-F balance auto adjustment
12. Tracking & sled servo on
13. Focus bias auto adjustment
14. Focus servo gain auto adjustment
15. Tracking servo gain auto adjustment
16. Jump to lead-in area
17. Read TOC
18. Stop

(2) SACD (single layer)

1. Sled reverse move (sled in)
2. Disc detect
3. IC setting for SACD
4. Servo error signal offset auto adjustment
5. Spindle kick for LD on
6. LD on
7. Focus search
8. Focus servo on
9. Spindle kick
10. Spindle servo on
11. E-F balance auto adjustment
12. Tracking & sled servo on
13. Focus bias auto adjustment
14. Focus servo gain auto adjustment
15. Tracking servo gain auto adjustment
16. Jump to lead-in area
17. Read TOC
18. Stop

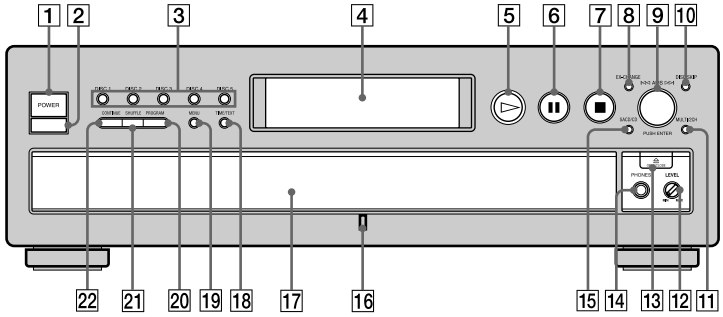
(3) SACD (dual layer)

1. Sled reverse move (sled in)
2. Disc detect
3. IC setting for SACD
4. Servo error signal offset auto adjustment
5. Spindle kick for LD on
6. LD on
7. Focus search
8. Focus servo on (layer 0)
9. Spindle kick
10. Spindle servo on
11. E-F balance auto adjustment (layer 0)
12. Tracking & sled servo on (layer 0)
13. Focus bias auto adjustment (layer 0)
14. Focus servo gain auto adjustment (layer 0)
15. Tracking servo gain auto adjustment (layer 0)
16. Jump to lead-in area
17. Read TOC
18. Focus jump (layer 0⟶layer 1)
19. E-F balance auto adjustment (layer 1)
20. Tracking & sled servo on (layer 1)
21. Focus bias auto adjustment (layer 1)
22. Focus servo gain auto adjustment (layer 1)
23. Tracking servo gain auto adjustment (layer 1)
24. Focus Jump (layer 1⟶layer 0)
25. Stop

SECTION 2
GENERAL

This section is extracted from instruction manual.

Front Panel Parts Descriptions



1 **POWER switch (11)**
Press to turn on/off the player.

2 **Remote sensor (4)**

3 **DISC 1–5 button (12)**
Press to select the disc.

4 **Display window (12)**
Shows various information.

5 **► button (12)**
Press to start play.

6 **II button (12)**
Press to pause play.

7 **■ button (12)**
Press to stop play.

8 **EX-CHANGE button (15)**
Press to replace discs while playing a disc.

9 **⏮AMS⏭ dial (AMS: Automatic Music Sensor) (6, 12)**
When you turn the ⏮AMS⏭ dial counterclockwise by one click, you go back to the preceding track; when you turn the ⏮AMS⏭ dial clockwise by one click, you go to the succeeding track.

10 **DISC SKIP button (11)**
Press to select the disc.

11 **MULTI/2CH button (with an LED) (12)**
Press to select the playback area when the 2 channel + Multi-channel Super Audio CD is loaded. When you select the Multi-channel playback area (page 11), the LED turns on.

12 **PHONES LEVEL control**
Adjust the headphones volume.

13 **⏏ OPEN/CLOSE button (11)**
Press to open/close the disc tray.

14 **PHONES jack**
Connect the headphones.
During playback of a Multi-channel Super Audio CD, the same signal that is output from the ANALOG 5.1CH FRONT L/R jacks is output from the PHONES jack.

15 **SACD/CD button (with an LED) (12)**
Each time you press the button while the Hybrid disc (page 10) is loaded, the layer changes between an HD (SACD) layer (the LED turns on) and CD layer (the LED turns off).

16 **MULTI CHANNEL DECODING indicator**
Turns on when you turn on the player, or when the Multi-channel Super Audio CD is loaded and select the Multi-channel playback area by pressing MULTI/2CH.

17 **Disc tray (11)**
Press ⏏ OPEN/CLOSE to open/close the disc tray.

18 **TIME/TEXT button (13)**
Each time you press the button, the playing time of the track, the total remaining time on the disc, or TEXT information appears in the display.

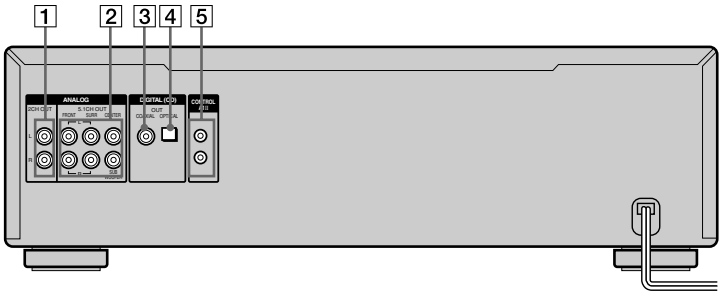
19 **MENU button (6)**
Press to enter the menu.

20 **PROGRAM button (20)**
Press to select Program Play.

21 **SHUFFLE button (19)**
Press to select Shuffle Play.

22 **CONTINUE button (11)**
Press to resume normal play from Shuffle Play or Program Play.

Rear Panel Parts Descriptions



1 **ANALOG 2CH OUT L/R jacks (5)**
Connect to an audio component (stereo/2 channel) using the audio connecting cord.

2 **ANALOG 5.1CH OUT jacks (4)**
Connect to an amplifier equipped with the 5.1CH input jacks (Multi-channel amplifier, AV amplifier, etc.) using the audio connecting cords.

3 **DIGITAL (CD) OUT COAXIAL connector (6)**
Connect to an audio component using an coaxial digital cable.

4 **DIGITAL (CD) OUT OPTICAL connector (6)**
Connect to an audio component using an optical digital cable.

5 **CONTROL A1 Ⅱ jacks (6, 26)**
Connect to a Sony audio component using the monaural (2P) mini-plug cord.

Note
Only the audio signals of the CD can be output from the DIGITAL (CD) OUT connectors shown in 3. Those of the Super Audio CD cannot be output through DIGITAL (CD) OUT.

Remote Parts Descriptions

1 **CONTINUE button (11)**
Press to resume normal play from Shuffle Play or Program Play.

SHUFFLE button (19)
Press to select Shuffle Play.

PROGRAM button (20)
Press to select Program Play.

2 **NAME INPUT button (25)**
Press to enter the name input mode.

3 **DISC/CAPS button (16, 25)**
Press to select the disc.
Press to select the capital letter in name input mode.

4 **Number buttons (16)**
Press to enter the track numbers.

5 **>10 button (16)**
Press to locate a track numbered over 10.

6 **REPEAT button (18)**
Press repeatedly to play all tracks or only one track on the disc.

7 **CHECK button (20)**
Press to check the programmed order.

8 **▷ button (12)**
Press to start play.

II button (12)
Press to pause play.

■ button (12)
Press to stop play.

9 **AMS I◀◀/▶▶I (AMS: Automatic Music Sensor) buttons (16)**
Press to locate a specific track.

10 **◀◀/▶▶ buttons (17)**
Press to locate a portion you want to play within a track.

11 **DISC SKIP +/– buttons (16)**
Press to select the disc.

12 **CD1/2 (COMMAND MODE) switch (6)**
Select the command mode.

13 **DISPLAY MODE button (13)**
Press to turn off the information.

14 **SACD/CD button (12)**
Each time you press the button while the Hybrid disc (page 10) is loaded, the layer changes between an HD layer (the SACD/CD LED turns on) and CD layer (the SACD/CD LED turns off).

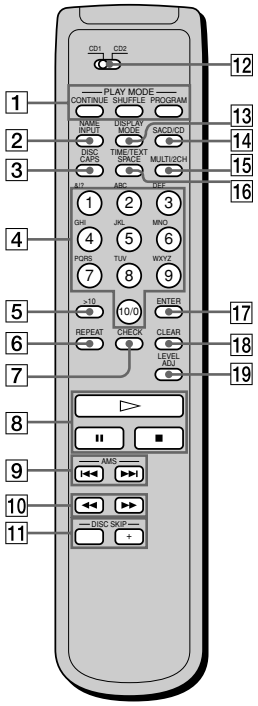
15 **MULTI/2CH button (12)**
Press to select the playback area when the 2 channel + Multi-channel Super Audio CD is loaded. When you select the Multi-channel playback area (page 11), the MULTI/2CH LED turns on.

16 **TIME/TEXT/SPACE button (13, 25)**
Each time you press the button, the playing time of the track, the total remaining time on the disc, or TEXT information appears in the display.
Press to insert a space in name input mode.

17 **ENTER button (25)**
Press to decide the selection.

18 **CLEAR button (20)**
Press to delete a programmed track number.

19 **LEVEL ADJ button (23)**
Press to adjust the output level balance for the Multi-channel management function (page 21).



SECTION 3
DISASSEMBLY

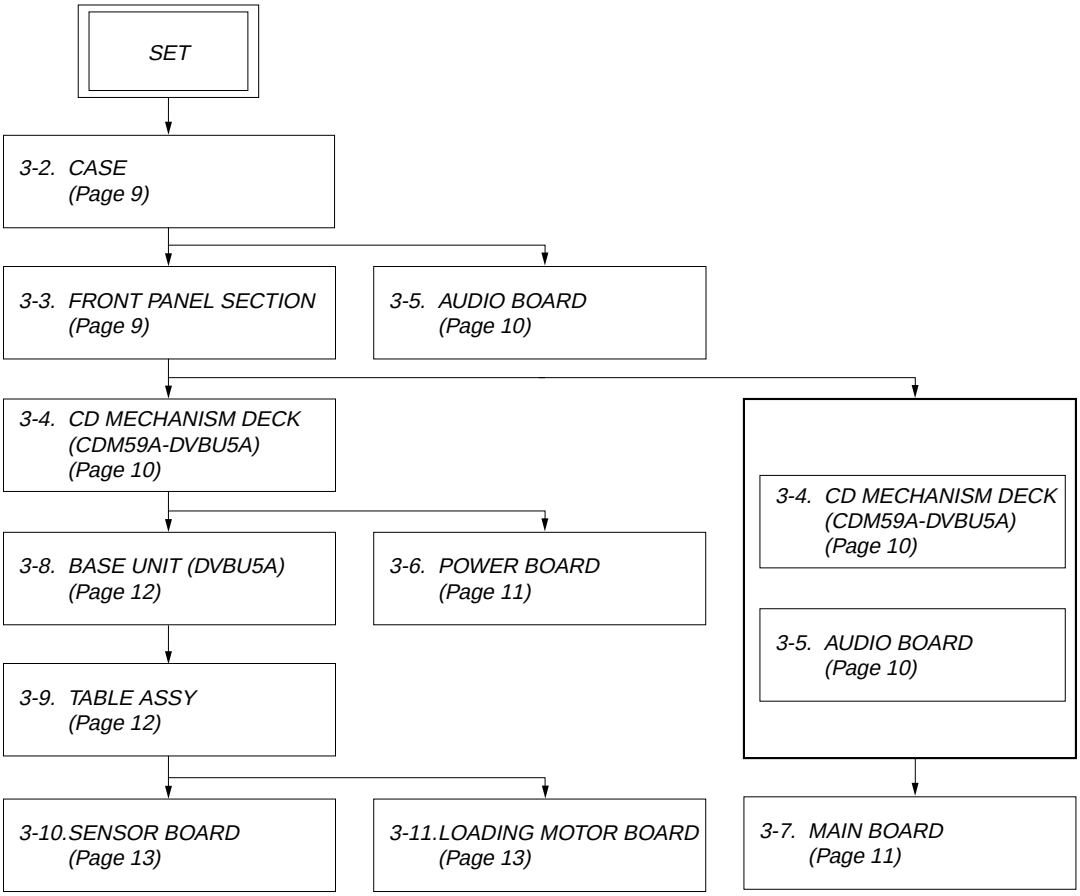
• This set can be disassembled in the order shown below.

3-1. DISASSEMBLY FLOW

Note 1: *The process described in* ▣ *can be performed in any order.*

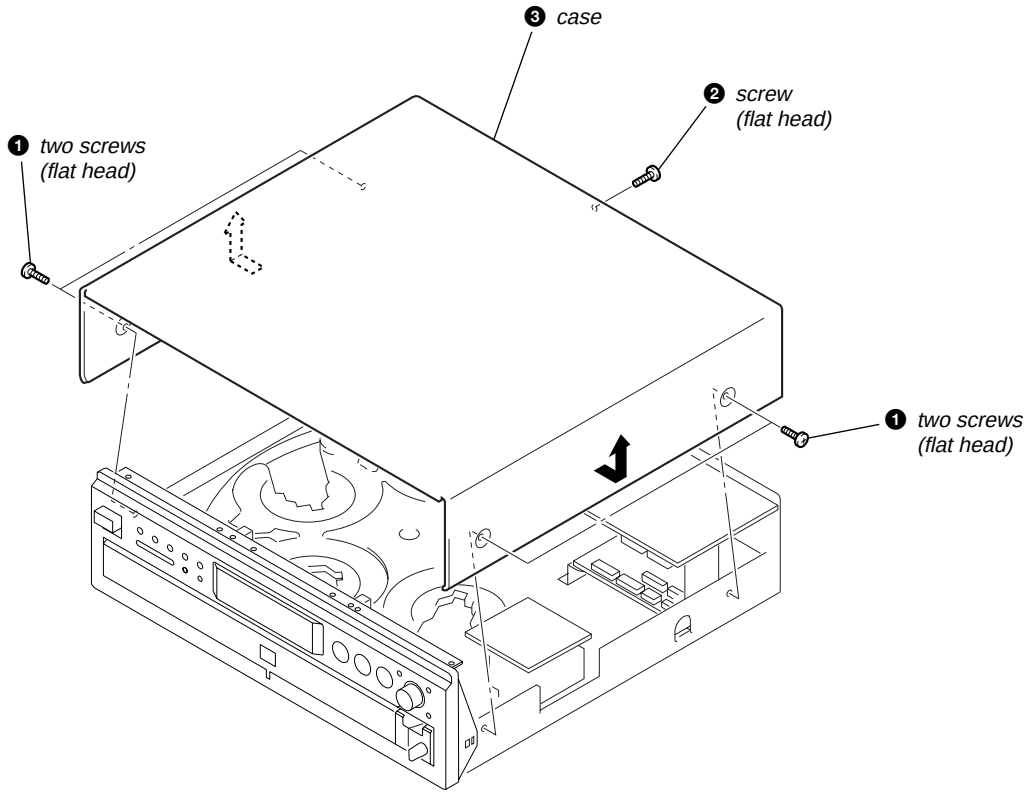
Note 2: *Without completing the process described in* ▣*, the next process can not be performed.*

Note 3: *Illustration of disassembly is omitted.*

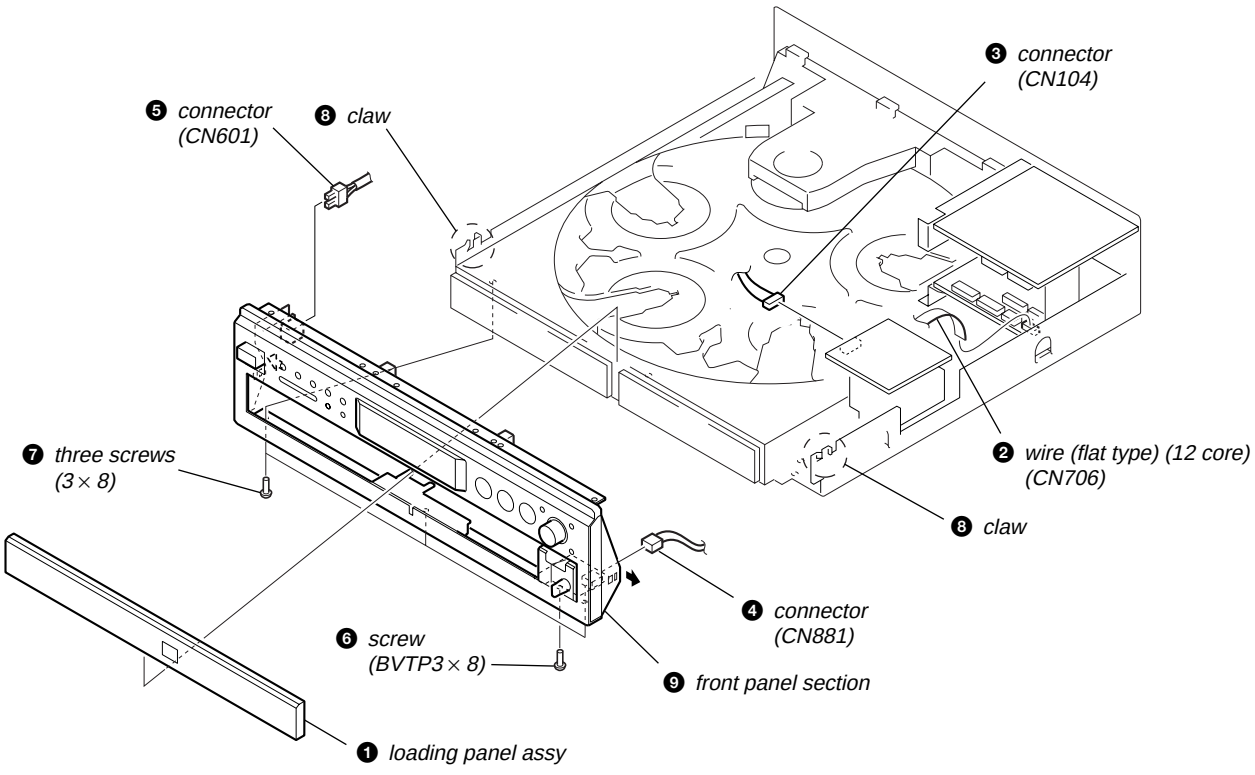


Note: Follow the disassembly procedure in the numerical order given.

3-2. CASE

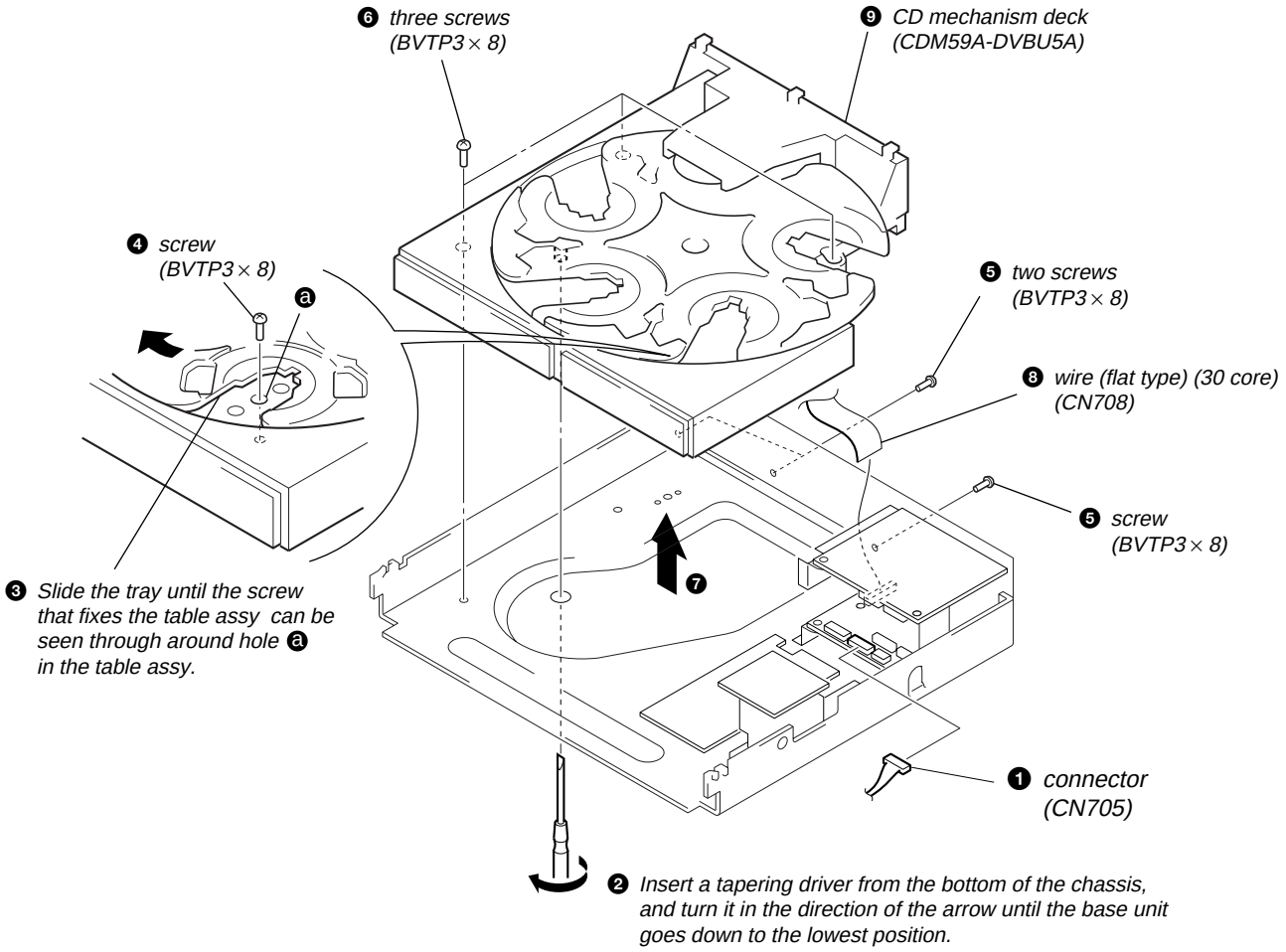


3-3. FRONT PANEL SECTION

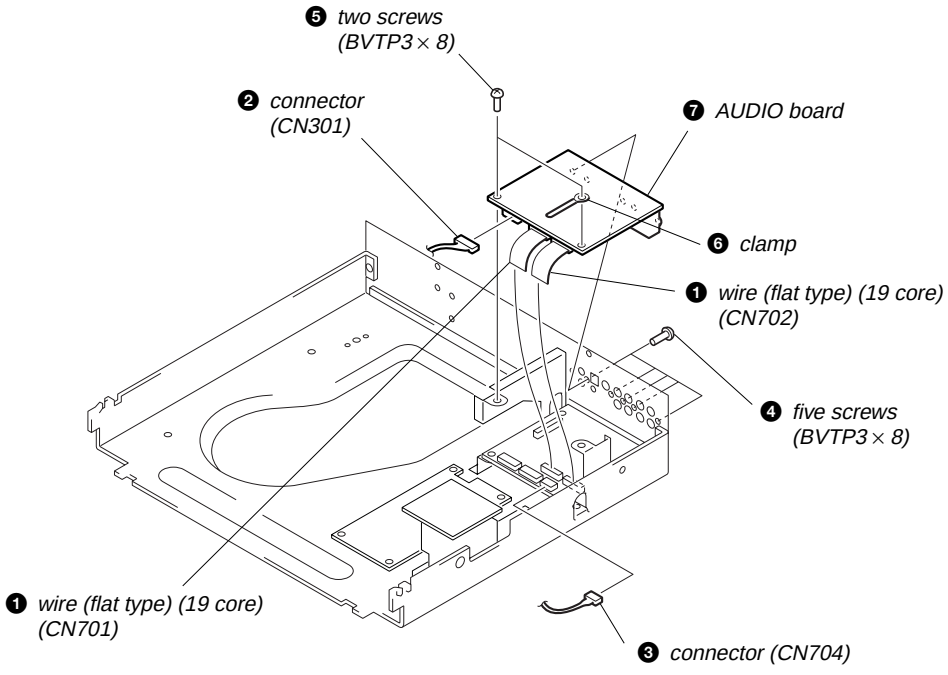


Note: When removing the loading panel, refer to "Section 1. Servicing Notes" on page 4.

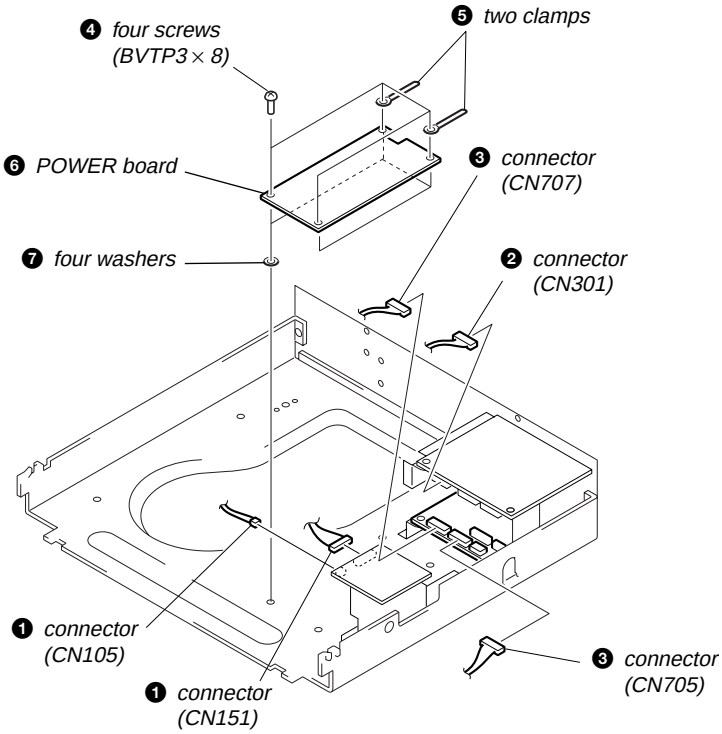
3-4. CD MECHANISM DECK (CDM59A-DVBU5A)


❻ three screws (BVTP3 × 8)
❾ CD mechanism deck (CDM59A-DVBU5A)
❹ screw (BVTP3 × 8)
ⓐ
❺ two screws (BVTP3 × 8)
❽ wire (flat type) (30 core) (CN708)
❺ screw (BVTP3 × 8)
❼
❸ Slide the tray until the screw that fixes the table assy can be seen through around hole ⓐ in the table assy.
❶ connector (CN705)
❷ Insert a tapering driver from the bottom of the chassis, and turn it in the direction of the arrow until the base unit goes down to the lowest position.

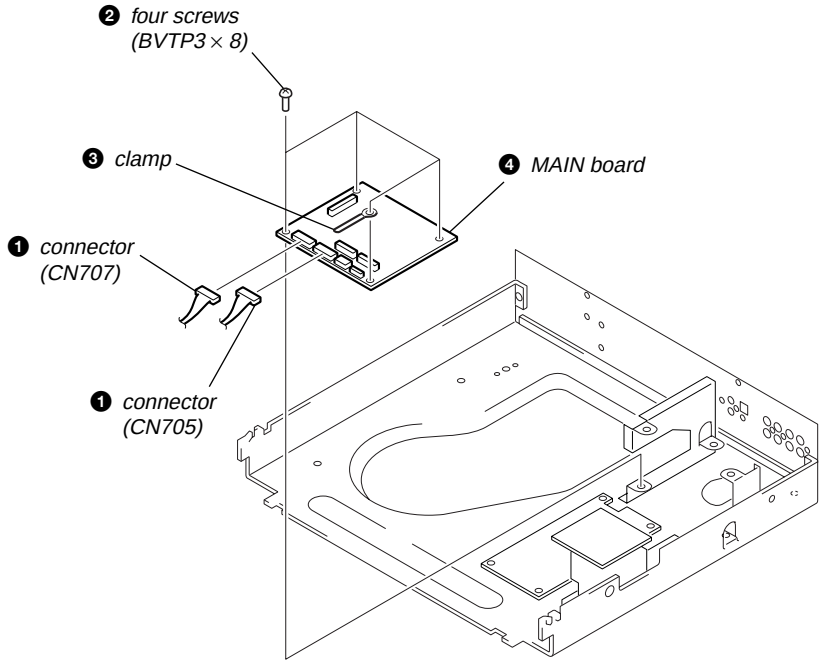
3-5. AUDIO BOARD


❺ two screws (BVTP3 × 8)
❷ connector (CN301)
❼ AUDIO board
❻ clamp
❶ wire (flat type) (19 core) (CN702)
❹ five screws (BVTP3 × 8)
❶ wire (flat type) (19 core) (CN701)
❸ connector (CN704)

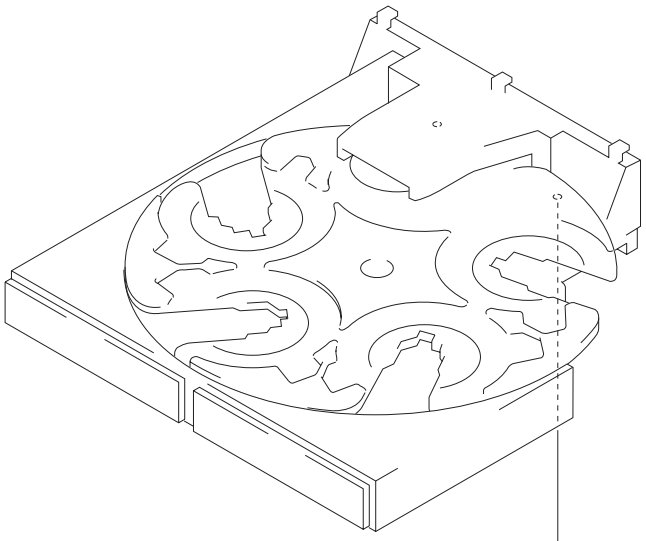
3-6. POWER BOARD

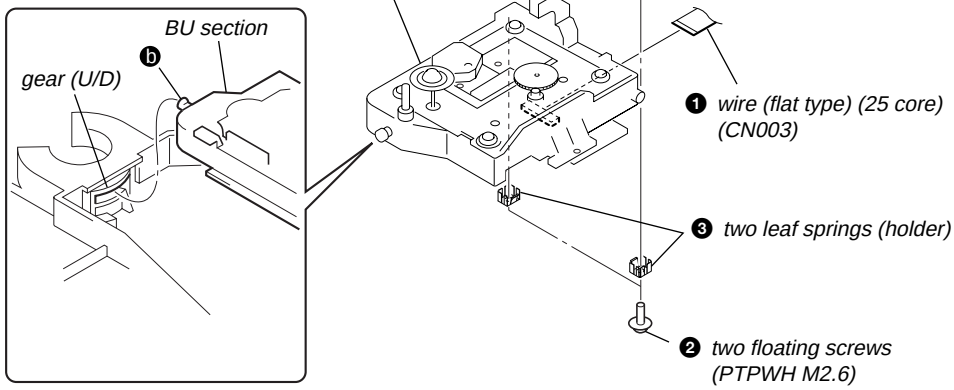


3-7. MAIN BOARD



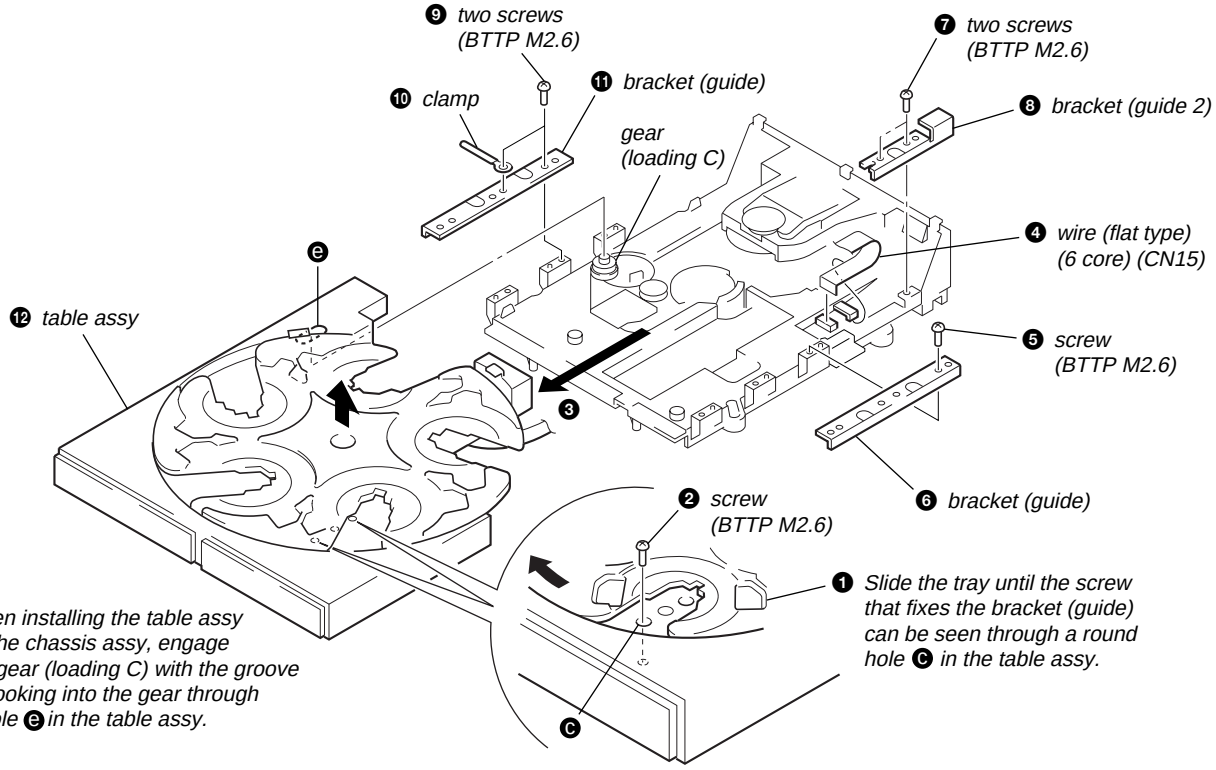
3-8. BASE UNIT (DVBU5A)





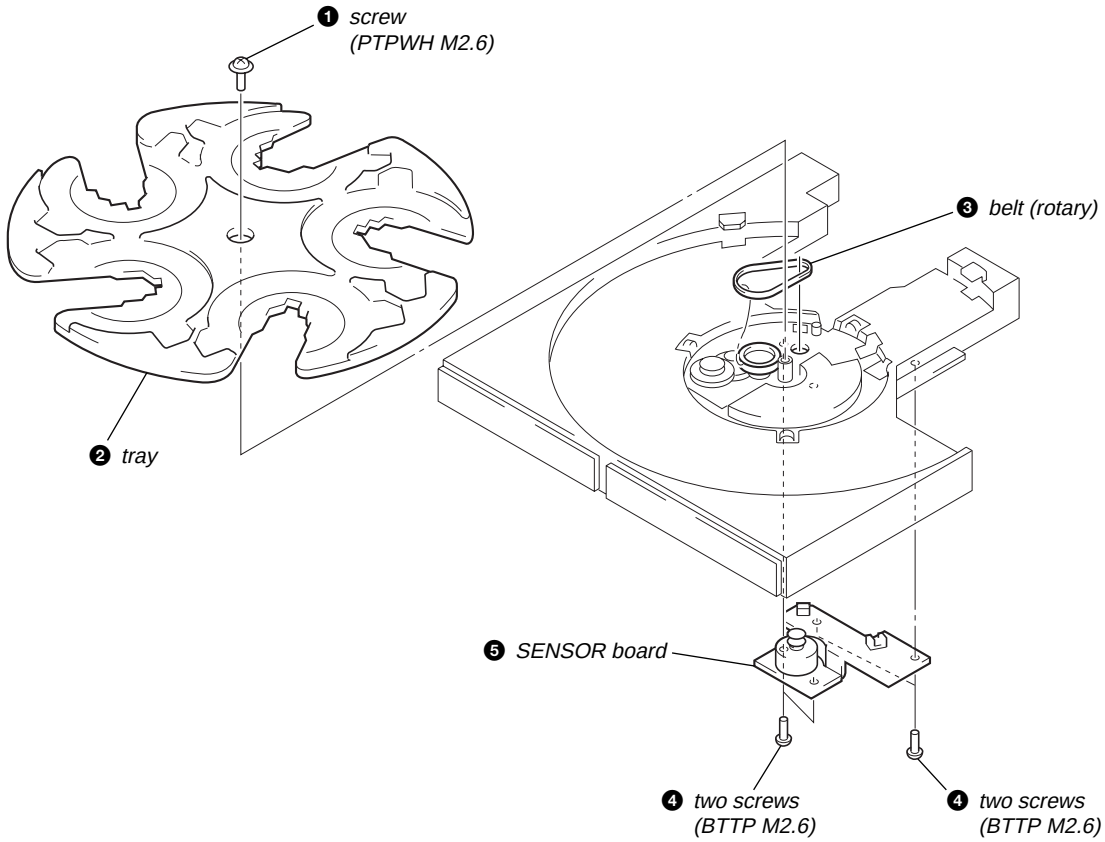
Note: When installing the BU on the chassis, set the lever (lifter) in free position, the gear (U/D) in UP position, and insert the shaft ⓑ into the groove of gear (U/D).

3-9. TABLE ASSY

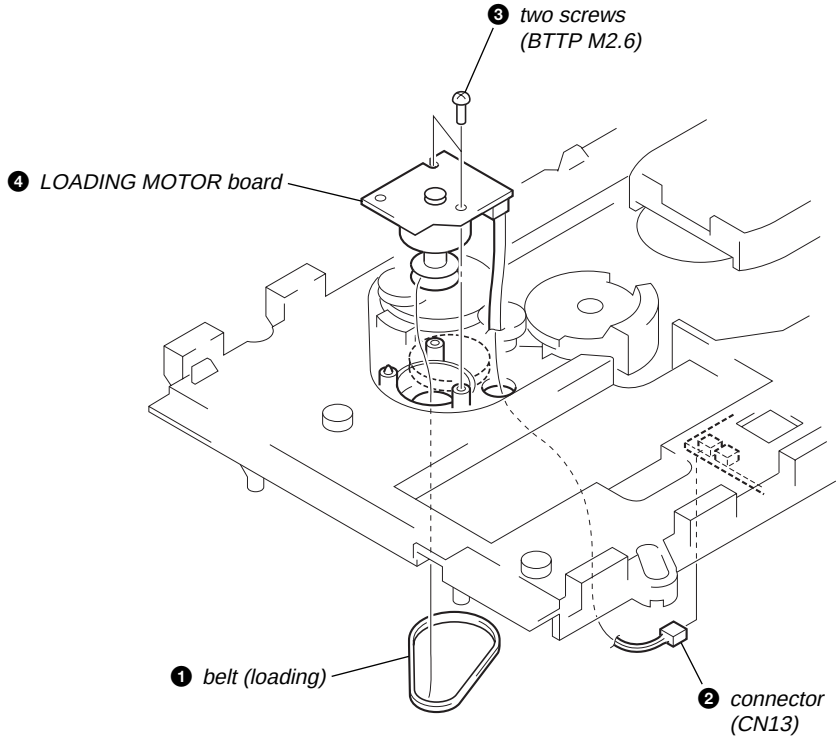

❾ two screws (BTTP M2.6)
❼ two screws (BTTP M2.6)
❿ clamp
⓫ bracket (guide)
❽ bracket (guide 2)
gear (loading C)
❹ wire (flat type) (6 core) (CN15)
ⓔ
⓬ table assy
❺ screw (BTTP M2.6)
❸
❻ bracket (guide)
❷ screw (BTTP M2.6)
❶ Slide the tray until the screw that fixes the bracket (guide) can be seen through a round hole Ⓒ in the table assy.
Ⓒ

Note: When installing the table assy on the chassis assy, engage the gear (loading C) with the groove by looking into the gear through a hole ⓔ in the table assy.

3-10. SENSOR BOARD



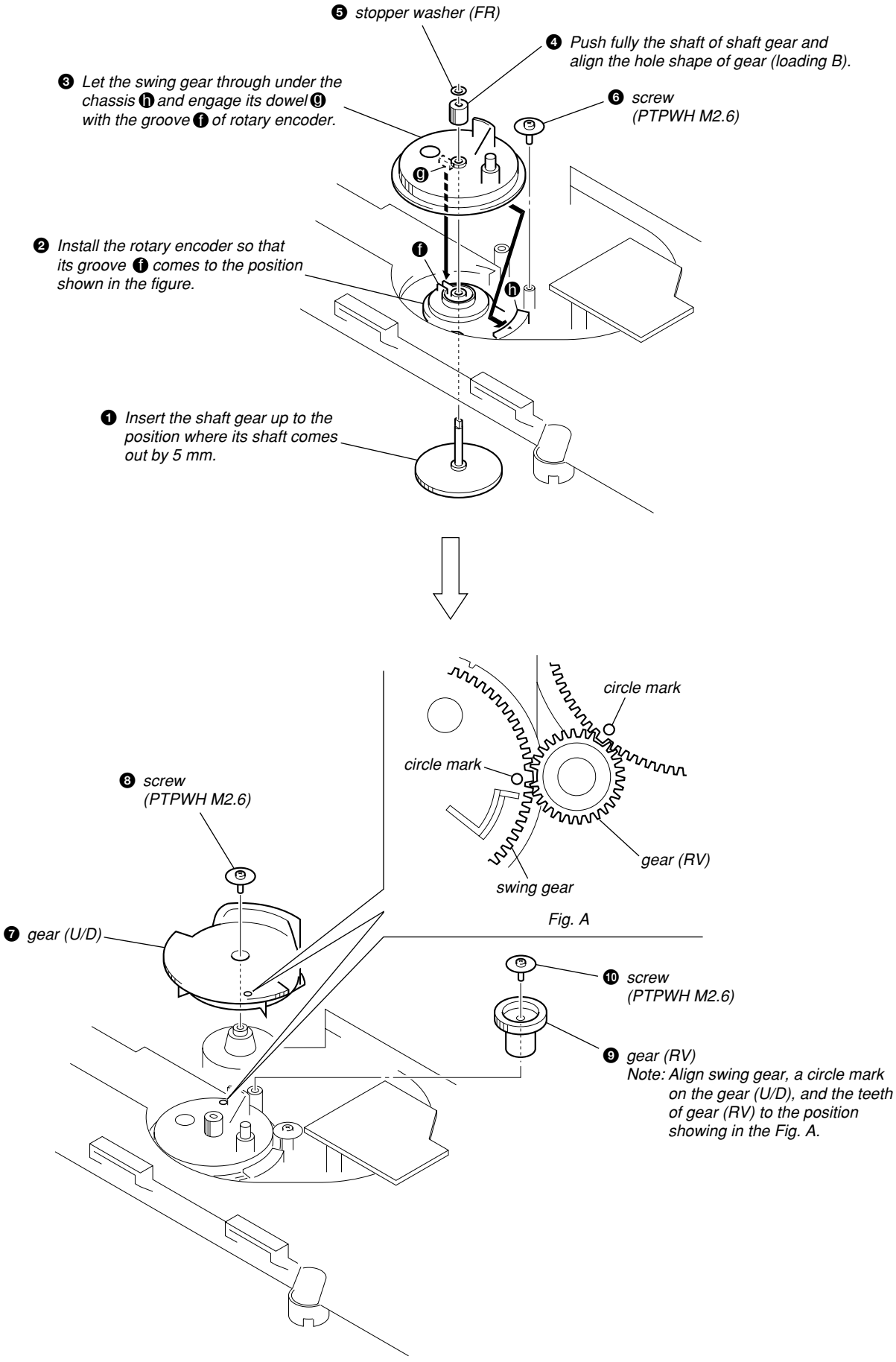
3-11. LOADING MOTOR BOARD



SECTION 4
ASSEMBLY

Note: Follow the assembly procedure in the numerical order given.

ADJUSTING PHASE OF SWING GEAR AND GEAR (U/D)


❺ stopper washer (FR)
❹ Push fully the shaft of shaft gear and align the hole shape of gear (loading B).
❸ Let the swing gear through under the chassis ⓗ and engage its dowel ⓖ with the groove ⓕ of rotary encoder.
❻ screw (PTPWH M2.6)
❷ Install the rotary encoder so that its groove ⓕ comes to the position shown in the figure.
❶ Insert the shaft gear up to the position where its shaft comes out by 5 mm.
circle mark
circle mark
❽ screw (PTPWH M2.6)
gear (RV)
swing gear
Fig. A
❼ gear (U/D)
❿ screw (PTPWH M2.6)
❾ gear (RV)
Note: Align swing gear, a circle mark on the gear (U/D), and the teeth of gear (RV) to the position showing in the Fig. A.

SECTION 5
TEST MODE

This set automatically executes self-diagnosis and various checks by entering the test mode.

Note: This set automatically makes various adjustments according to the type of disc, thereby not requiring adjustment of the set when parts were replaced. However, be sure to execute 5-1. IC AND FLUORESCENT DISPLAY TUBE CHECK, 5-2. AUTO CHECK and 5-8. WAVEFORMS CHECK.

Disc for Test Mode

Various checks of this set require the following discs.

Model	Type *1	Category	Application
MODEL SATD-S5 (J-2501-215-A) SATD-S4 (J-2501-184-A)	SL	12 cm disc Reference disc	Adjusted value check, Operation check, Optical waveform check
Not specified	DL	12 cm disc	Operation check
PATD-012 (4-225-203-01) YEDS-18 (3-702-101-01)	CD	12 cm disc Reference disc	Adjusted value check, Operation check, Optical waveform check
Not specified	HYBRID	12 cm disc	Operation check

*1 SL: Single Layer
DL: Dual Layer

Setting Method of Test Mode

Turn the [POWER] switch on while pressing the [⏮ AMS ⏭] dial and the [MENU] button. Release the [MENU] button and the [⏮ AMS ⏭] dial in this order when "Test Mode Menu" is displayed on the fluorescent indicator tube. (If the [⏮ AMS ⏭] dial is released first, the test mode becomes active but "Test Mode Menu" is not displayed)

[⏏ OPEN/CLOSE] Key in the Test Mode.

The [⏏ OPEN/CLOSE] key is disabled immediately after setting the test mode. Be sure to turn the [⏮ AMS ⏭] dial to select 59 Table Init and push [⏮ AMS ⏭] once. When initialization of the table is completed, the message "INITAIL OK" appears several seconds on the fluorescent indicator tube. After this, the [⏏ OPEN/CLOSE] key is enabled and disc can be inserted and ejected.
When the command 59 Table Init is executed, the same operations of the POWER ON to the disc chucking in the normal operations as described below are performed. However, it presumes that the door and the tray are closed depending on the stop status.
59 Table Init → BU DOWN (disc unchucking) → Table rotates (disc search) → BU UP (disc chucking) at the disc that is found first of all.
When there are no discs, BU UP is executed at the DISC1 position.

Releasing Method of Test Mode

To release the test mode, turn the [POWER] switch off.

Selection/Entry of Test Mode

To select and enter the "Test Mode Menu", operate as follows.

1. Rotate the [⏮ AMS ⏭] dial to select the menu, and press the [⏮ AMS ⏭] dial to enter.
2. The test is switched on or off alternately each time the [⏮ AMS ⏭] dial is pressed.
3. To return to the previous step, rotate the [⏮ AMS ⏭] dial to select the desired item, and press the [⏮ AMS ⏭] dial to enter.

Test Mode Command List

The contents of test mode are as follows.

Note: Wrong operation in the test mode causes a trouble, thus requiring extreme care.

LINE command (1X): Use mainly for a manufacturing line.

No.	Name	Description	Remarks
05	DSP MON1	XUGF, XPCK, C2PO outputted from IC509 (CD DSP)	Not used for the servicing
06	DSP MON2	MNT0, MNT1, MNT2, MNT3 outputted from IC509 (CD DSP)	Not used for the servicing
07	DSP MON3	RFCK, XPCK, XROF, GTOP outputted from IC509 (CD DSP)	Electrical measurement, CD CLV jitter measurement

STANDARD command (1X): Use when the servo is applied by manual operation.

No.	Name	Description	Remarks
12	LD ON/OFF	The laser diode is turned on or off	On or off are switched alternately
13	SPIN ON/OFF	The spindle motor is rotated with the regulated voltage	On or off are switched alternately
14	FSRV ON/OFF	The focus servo is turned on or off	On or off are switched alternately
15	TSRV ON/OFF	The tracking servo is turned on or off	On or off are switched alternately
16	CLV ON/OFF	The spindle SLV servo is turned on or off Focus and tracking servos must be already turned on	On or off are switched alternately
17	SSRV ON/OFF	The sled servo is turned on or off Focus, tracking and spindle servos must be already turned on	On or off are switched alternately
18	ALL SRV ON	All servos are turned on	
19	ALL SRV OFF	All servos are turned off	Stop command in the test mode

FOCUS command (2X): Focus related. (All servos must be already turned on (except command 21))

No.	Name	Description	Remarks
21	FSRCH ON/OFF	The continuous vertical motion of the optical pick-up lens is turned on or off	Avoid a long-time use
22	F-BIAS UP	Increase focus bias	Focus bias value
23	F-BIAS DOWN	Decrease focus bias	Focus bias value
24	ADJ FCSBIAS	The focus bias is adjusted automatically Both + and - directions are searched to search for best jitter point	
25	FGAIN UP/DW	The focus servo gain is switched between normal and down	Normal or down are switched alternately
26	FJMP UP/DWN	Focus jump is executed UP: layer 0⟶1, DOWN: layer 1⟶0	Valid only for DL
27	FOCUS AGC	The focus servo gain is adjusted automatically	
28	DISP FBdata	The focus bias adjusted value is displayed	Hexadecimal display 9 bit data

Note: On or off and up or down are switched alternately

OFFSET (PI, FE, TE) command (3X): Adjusts the offset of PI, FE and TE signals.

No.	Name	Description	Remarks
31	PI/FE OFSET	Adjusts the offset of PI, FE and TE signals This adjustment must be executed after 61 DISC DETECT	TE offset adjustment is executed for the CD only

TRACKING command (4X): Tracking servo related.

No.	Name	Description	Remarks
41	TGAIN NM/UP	The tracking servo gain is switched between normal and up	Normal or up are switched alternately
44	ADJ TRK DSP	The traverse AGC and E-F balance adjustment is performed	
45	TRACKING AGC	The tracking servo gain is adjusted automatically	

SEARCH command (5X): Track search related. (Nos. 51 through 53 are not used for the servicing.)

No.	Name	Description	Remarks
51	1-TRCK JUMP	One-track jump is performed	
52	M-TRCK MOVE	M-track movement is performed	
53	FINE SEARCH	Fine search is performed	
58	CDM Check	Measurement of table rotation hours, tray open/close hours and panel door open close hours	
59	Table Init	Initializes the table.	After this command, the ⏏ OPEN/CLOSE key is enabled.

DISC DETECT command (6X): Disc type check related.

No.	Name	Description	Remarks
61	DISC DETECT	Disc type check is executed Display after judgment DSKMOD CD: Judged as CD DSKMOD SL: Judged as SACD (SL) DSKMOD DL: Judged as SACD (DL) DSKMOD HLHD: Judged as HYBRID HD DSKMOD CDRW: Judged as CD-RW	Refer to how to apply servo by manual operation (page 17)
62	SetDiscMode	Enter disc type CD setting	CD forced setting
63		Enter disc type SL setting	SL forced setting
64		Enter disc type DD setting	DD forced setting
65		Enter disc type HYBRID HD setting	HD forced setting
66		Enter disc type HYBRID CD setting	CD forced setting
6F	Download		Not used for the servicing

TOOLS command (8X): Performs aging, reads adjusting parameters, etc.

No.	Name	Description	Remarks
81	VERSION	Firmware version is displayed	Example: Ver 1.00
83	TRAY AGING	Tray open-close aging is performed Not used for the servicing	Number of times and eccentricity measurement Not used in this set.
84	JITTER	Jitter measurement	Not used for the servicing
85	ERROR RATE	Error rate measurement CD: C1, C2 SACD: PO, PI1, PI2	Error rate Not used for the servicing
86	ALL SRV ON	Apply all servos Full automatic measurement including PI, FE and TE offset adjustment is performed	Use when applying the servo by manual operation Refer to STANDARD command (page 15)
87	DISP ADJ DT	Automatic adjusting parameters are displayed The offset adjusted values are scroll-displayed in order of RF, VC, FE and TE	Refer to auto check items (page 20) Refer to auto check items (page 20)
8A	FL TEST		Not used for the servicing
8d	Set Up Init	Set to factory shipping mode PLAY, REPEAT, DIGIFIL, etc. are initialized	Set when repair completed Refer to 5-7. SHIPPING MODE (page 25)
8F	49 TRCK JIT	Used for jitter measurement of 49th music on SACD-S4	For manufacturing line Not used for the servicing

QA command (9X)

No.	Name	Description	Remarks
91	F.JMP CHECK		Not used for the servicing
92	SET CHECK	The set is checked	Refer to 5-2. AUTO CHECK (page 20)
93	WATER MARK		Not used for the servicing
94	SET AGING	The set aging is performed Repeat by the specified number of times or until an error occurred	Refer to 5-6. AGING MODE (page 25)
95	DISP ERROR	The content of error recorded to the set is read and displayed (Error recording) Only one item is recorded	Refer to Error Display list (page 26)
96	D-OUT OnOff	Digital out of CD is turned on or off	Not used in this set.
98	APDD JITTER		Not used for the servicing
9C	BU DENCHO	The content of error recorded to the set is read, and then the S curve waveform, traverse waveform, and RF waveform can be checked successively	Refer to 5-8.WAVEFORMS CHECK (page 27)
9D	P-ON HOUR	Approximate cumulative power supplying time is displayed (Initialized by 8d command)	In unit of 1 hour
9E	RFD OUT	RFD output is turned on or off SACD jitter measuring mode	Not used for the servicing

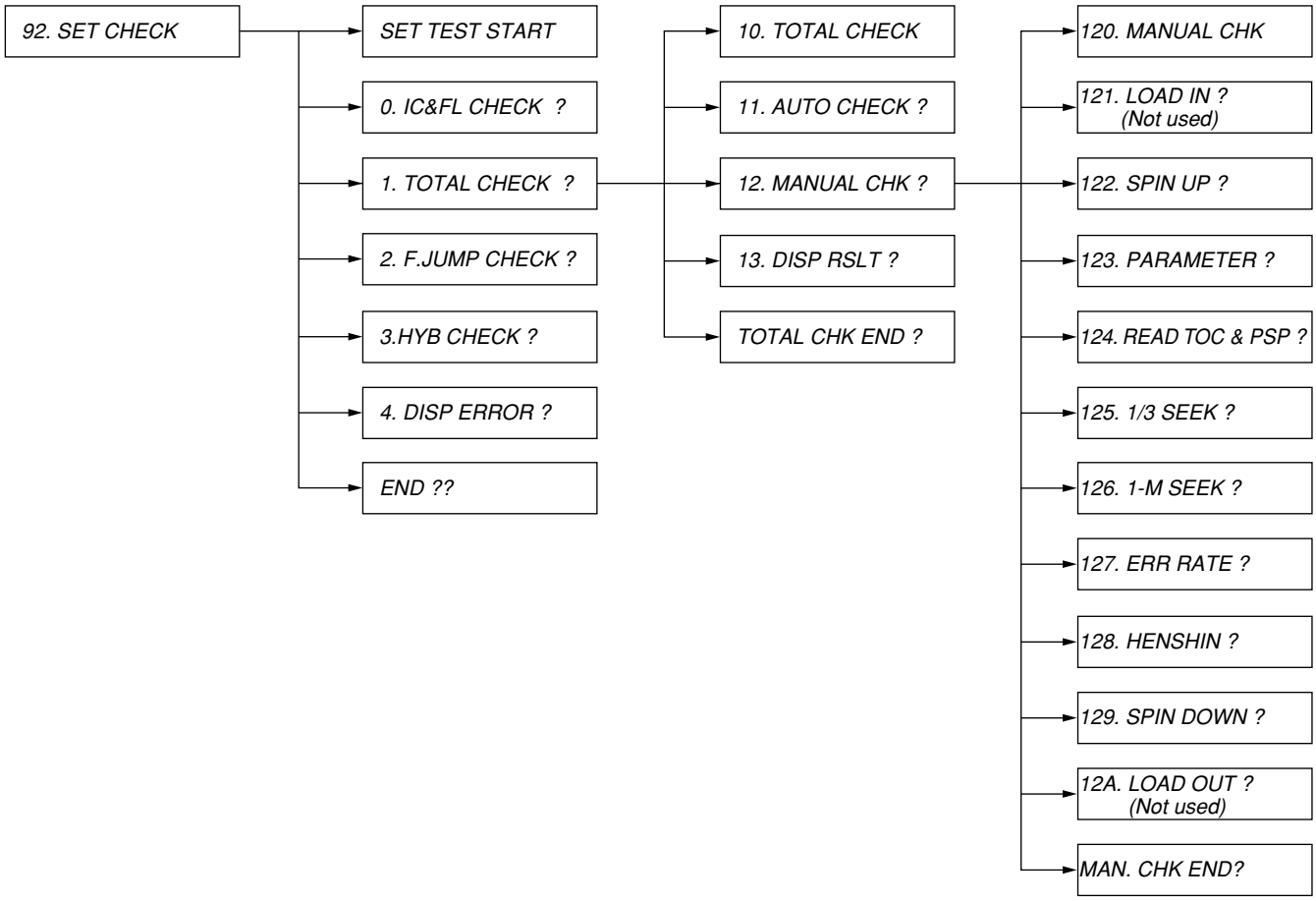
How to Apply Servo by Manual Operation

In analyzing failures of the set, the servo may be applied by manual operation. To apply servo in the test mode, use the following method.

1. After setting the test mode, rotate the [⏮ AMS ⏭] dial to select a command, and press the [⏮ AMS ⏭] dial to enter.
2. "61 DISC DETECT" (Disc type check)→"86 ALL SRV ON" (All servos on + auto adjustment)
3. If applying servo while checking the condition one by one, "61 DISC DETECT" (Disc type check)→"31 PI/FE OFSET" (Offset automatic adjustment)→"14 FSRV ON/OFF" (Focus servo on)→"16 CLV ON/OFF" (CLV servo on)→"44 ADJ TRK DSP " (E-F balance adjustment)→"15 TSRV ON/OFF" (Tracking servo on)→"17 SSRV ON/OFF" (Sled servo on)→"24 ADJ FCSBIAS" (Focus bias adjustment)→"27 FOCUS AGC" (Focus auto gain adjustment)→"45 TRACKING AGC" (Tracking auto gain adjustment).

Note: 1. On and off are alternately switched in the same command.
2. For a stop, select "19 ALL SRV OFF" and press the [⏮ AMS ⏭] dial.

Set Check



Press the [⏮ AMS ⏭] dial when No.□□□□□ □□□□□*1 is displayed, and a checking for that display will start or the lower layer will be selected. For the selection on the same layer, rotate the [⏮ AMS ⏭] dial. It is looped on the same layer, and when "END?" is displayed, press the [⏮ AMS ⏭] dial to return to the upper layer.
*1 □ denotes a displayed character.

Manual Check Method

In the "12. MANUAL CHK", individual checks (121. LOAD IN to 12A. LOAD OUT) are possible.
Example: If 124. READ TOC & PSP of 12. MANUAL CHECK is to be checked.
Setting Method:

1. After setting the test mode, rotate the [⏮ AMS ⏭] dial to select "92. SET CHECK" and press the [⏮ AMS ⏭] dial to enter.
2. When "SET TEST START" is displayed, rotate the [⏮ AMS ⏭] dial clockwise by 2 clicks to select "1. TOTAL CHECK?" and press the [⏮ AMS ⏭] dial to enter.
3. When "10. TOTAL CHECK" is displayed, rotate the [⏮ AMS ⏭] dial clockwise by 2 clicks to select "12. MANUAL CHK?" and press the [⏮ AMS ⏭] dial to enter.
4. When "120. MANUAL CHK" is displayed, rotate the [⏮ AMS ⏭] dial clockwise by 4 clicks to select "124. READ TOC & PSP?" and press the [⏮ AMS ⏭] dial to enter.
5. A checking will start automatically.

Note: In making a check, the disc must be loaded. Immediately when a check started, the tray is drawn into the set. Also, the tray can be opened/closed even during the set check mode.

5-1. IC AND FLUORESCENT DISPLAY TUBE CHECK (SELF-DIAGNOSIS)

The communication between microcomputer and main ICs (self-diagnosis) and the fluorescent display tube all lit are checked.

Checking Method:

1. After setting the test mode, rotate the [I◁◁ AMS ▷▷I] dial to select "92. SET CHECK" and press the [I◁◁ AMS ▷▷I] dial to enter.
2. When "SET TEST START" is displayed, rotate the [I◁◁ AMS ▷▷I] dial clockwise by 1 click to select "0. IC&FL CHECK?" and press the [I◁◁ AMS ▷▷I] dial to enter.
3. A checking will start automatically, and "0. IC&FL CHECK" will be displayed. (Checking time is about 3 seconds)
4. After IC communication check, all segments of fluorescent display tube will be lit. At this time, check visually for a skipped character.
5. At successful completion of check, "0. IC CHECK OK" is displayed. In this case, no error exists in the IC interface. Proceed to 5-2. AUTO CHECK.

Note: The check mentioned above tests the communication from microcomputer to main ICs. Even if the check successfully finished, the IC to be checked is not always normal. Consider it for reference only.

6. In case of an IC communication error, the following display will be given during the checking. Possible causes of error are as listed below.

Error display	Causes (typical example)
DVD DEC. ERROR	1. IC701 (SACD decoder) is faulty 2. IC701 pin ⑯ (XRST) does not go "H" • IC901 pin ㊷ (XDIS) does not go "H" • IC902 (expander) is faulty 3. 768fs (33.86688 MHz) is not present to IC701 pin ⑰ (XTAL) • IC811 (3-multiplying circuit) is faulty • Clock signal 256fs is not sent from AUDIO board (CN702 pin ⑩) • CN701 pin ③ (GND) and pin ② (+3.3V-D) are open or shorted • CN701, 702 and FFC connection is loose, or FFC is disconnected
DVD DRAM ERR	1. IC706 (D-RAM) is faulty 2. IC701 pin ⑯ (XRST) does not go "H" • IC901 pin ㊷ (XDIS) does not go "H" • IC902 (expander) is faulty 3. Faulty communication line between IC701 and IC706 • Data line, address line, WE, etc. 4. D903 (1SS367) is faulty D+3.3V is not present to IC706
CD DSP ERROR	1. IC509 (CD DSP) is faulty 2. 768fs (33.86688 MHz) is not present to IC509 pin ㉑ (XTAL) Same as cause 3 of DVD DEC. ERROR 3. IC509 pin ② (XRST) does not go "H" • IC901 pin ㊷ (XDIS) does not go "H" • IC902 (expander) is faulty
EEPROM ERROR	1. IC903 (EEPROM) is faulty
PRAWN DRAM ERR *1	1. IC808 (D-RAM) is faulty 2. IC801 (DSD decoder) is faulty 3. 768fs (33.86688 MHz) is not present to IC801 pin ⑪ (MCKI) Same as cause 3 of DVD DEC. ERROR 4. IC801 pin ⑨ (XRST) does not go "H" • IC901 pin ㊷ (XDIS) does not go "H" • IC902 (expander) is faulty 5. Faulty communication line between IC801 and IC808 • Data line, address line, WE, etc. 6. D904 (1SS367) is faulty D+3.3V is not present to IC808
RF AMP ERROR	1. IC001 (RF AMP) is faulty 2. Loose connection between CN708 on MAIN board and CN005 on RF board, or FFC disconnection CN708 pin ⑰ (CLK RF), pin ⑯ (DATA RF) and pin ⑮ (SDEN) must be checked

*1 DSD decoder is also checked.

Causes Common to Each IC:

1. Faulty communication line between microcomputer and each IC.
   Disconnected patterns, floating series resistors, bridge, etc.
2. Faulty IC supply voltage.
   Particularly, check D+3.3V voltage. (D+5V for display microcomputer)
3. Faulty microcomputer communication port to each IC

Note: In case of more than two errors, the error display is switched over one after another, thus making the reading difficult.
In such a case, press again the [I◁◁ AMS ▷▷I] dial to make a recheck for error reading.

5-2. AUTO CHECK (AUTOMATIC VARIOUS MEASUREMENTS)

The auto check is performed to check if the set operates stably. Though a checking is made automatically, whether the measured data are within the specification is evaluated by the service person. The auto check results in NG immediately, if the check itself causes an error.

Setting Method of Auto Check Mode:

1. After setting the test mode, rotate the [⏮ AMS ⏭] dial to select "92. SET CHECK" and press the [⏮ AMS ⏭] dial to enter.
2. When "SET TEST START" is displayed, rotate the [⏮ AMS ⏭] dial clockwise by 2 clicks to select "1. TOTAL CHECK?" and press the [⏮ AMS ⏭] dial to enter.
3. When "10. TOTAL CHECK" is displayed, rotate the [⏮ AMS ⏭] dial clockwise by 1 click to select "11. AUTO CHECK?".

CD and SACD (SL) Disc Operation Check

Checking method:

1. Press the [⏏ OPEN/CLOSE] button to open the tray and place the test disc *1. The [⏏ OPEN/CLOSE] key is disabled immediately after setting the test mode. Be sure to initialize the table.
2. Press the [⏮ AMS ⏭] dial, and the following check will be performed automatically.
3. Finally, the test disc will be ejected and the auto check will finish.
4. "AUTO CHECK OK" will be displayed at successful completion of auto check.
5. Recheck is enabled if the [⏮ AMS ⏭] dial is pressed in step 4. (Also, use this operation when exchanging the test disc)
6. In case of an error during the checking, the check is interrupted automatically and the error is displayed. (Error display example: "DISC DETECT ERROR") After error display, "CONT?STOP (J/S)" is displayed. In this case, if the [⏮ AMS ⏭] dial is pressed, the check where the error occurred is skipped and you can proceed to the next check. Also, [■] if button is pressed, the check finishes and "AUTO CHECK NG" is displayed when even one NG item exists.

*1 Use PATD-012 or YEDS-18 for CD, and SATD-S5 or SATD-S4 for SACD (SL). Using another disc will result in a checking failure.

Check Items:

Items	Description	Remarks
LOAD IN TIME (msec)	Time until a disc is chucked from the state where loading tray is out	Loading in switch H→L
SPIN UP TIME (msec)	Time from spindle kick to PLL lock	Lock signal L→H
RF/VC/FE/TE (ORG)	Offset values before RF (PI), VC, FE, TE signal offset adjustment RF (8 bit data in hex notation) VC, FE, TE (9 bit data in hex notation)	At offset 0 RF: A0h VC, FE, TE: 00h
RF/VC/FE/TE (ADJ)	Offset values after RF (PI), VC, FE, TE signal offset adjustment (Less than ORG value if offset correction is normal) RF (8 bit data in hex notation) VC, FE, TE (9 bit data in hex notation)	VC offset is not adjusted (Measurement only) Also, for SACD, the TE offset is not measured and adjusted
PI/TRVS PP (ORG/ADJ)	PI (ORG): PI value at disc type check (decimal data) PI (ADJ): PI value after PI offset adjustment (read value at microcomputer A/D) (decimal data) TRVS PP (ORG): Traverse level before level correction (AGC) (decimal data) TRVS PP (ADJ): Traverse level after level correction (AGC) (decimal data)	PI level conversion Read value × 12.9mV Traverse level conversion Read value × 12.9mV 12.9mV=3.3V ÷ 256 (8 bit)
PIOR/CCR/TRCR	PIOR: Set value of PI offset coarse adjusting register CCR: Set value of FE offset coarse adjusting register TRCR: Set value of TE offset coarse adjusting register	Registers in RF amplifier
FOCUS/TRK GAIN	Auto gain adjusted values of focus and tracking servos (8 bit data in hex notation)	Reference: 30h
FBIAS/TRVSC/TRCR2/CFR	FBIAS: Focus bias set value (9 bit data in hex notation) TRVSC: Traverse center value (9 bit data in hex notation) TRCR2: Set value of E-F balance coarse adjusting register CFR: Set value of traverse level adjusting register	TRCR2 adjusts the E-F gain balance and used for CD only (Fixed to 06 for SACD) TRCR2 and CFR are registers in RF amplifier
MIN JITTER AT F.BIAS	Minimum jitter value in focus bias adjustment (CD only)	Correlative with RF jitter
READ TOC TIME (msec)	Time required for TOC reading	
PSP AMPLITUDE		SACD only
1/3 SEEK TIME F) AVE/MIN/MAX (msec): R) AVE/MIN/MAX (msec):	Seek time between 1/3LBA and 2/3LBA of the disc 1/3LBA→2/3LBA average/minimum/maximum 2/3LBA→1/3LBA average/minimum/maximum	LBA: Absolute address
1-MAX TRK SEEK F) AVE/MIN/MAX (msec): R) AVE/MIN/MAX (msec):	Seek time between most inward track (0LBA) and most outward track max LBA most inward→most outward average/minimum/maximum most outwar→most inward average/minimum/maximum	
ERROR RATE	Error rate measurement For CD: Average value/Maximum value of C1 and C2 For SACD: Average value/Maximum value of PO, PI1 and PI2	Measure for 10 sec at track No.5 For the SACD, 160 block data except the data under tracking jump

Items	Description	Remarks
HENSHIN RYOU	Eccentricity measurement Eccentricity (actual eccentric amount) of disc, disc pulley total	For the CD only are measured • Read by dividing by 10 • 0 may be displayed if eccentricity is small (10um or less) (Due to measurement reason)
SPIN DOWN TIME (msec)	Time from spindle brake application to rotation stop	FG (IC901 pin ⑥②) monitoring
LOAD OUT TIME (msec)	Time until loading table comes out from the state where a disc is in chuck	Loading out switch H→L

Measured Data Reading Method:

To judge the check result, the measured data must be read.

1. When "AUTO CHECK OK" is displayed, rotate the [⏮ AMS ⏭] dial clockwise by 2 clicks.
2. When "13. DISP RSLT?" is displayed, press the [⏮ AMS ⏭] dial to enter.
3. "PLEASE WAIT" will be displayed and in several seconds, "13. DISP RESULT" will be displayed.
4. Rotate the [⏮ AMS ⏭] dial clockwise by 1 click, and the "LOAD IN" will be displayed.
5. Press the [⏮ AMS ⏭] dial to enter.
6. Compare the displayed value with the following specified value.
7. Hence, repeat step 4 to 6 (display is variable) and read the measured data respectively.
8. Compare the measured data with the specified value to check for NG item.

Note: Blank display of measured value means that an error occurred during the checking or no measurement was taken place.

Specified Value:

(1) SACD (Use the test disc SATD-S5 or SATD-S4)

Note: Measured values in check items are typical ones.

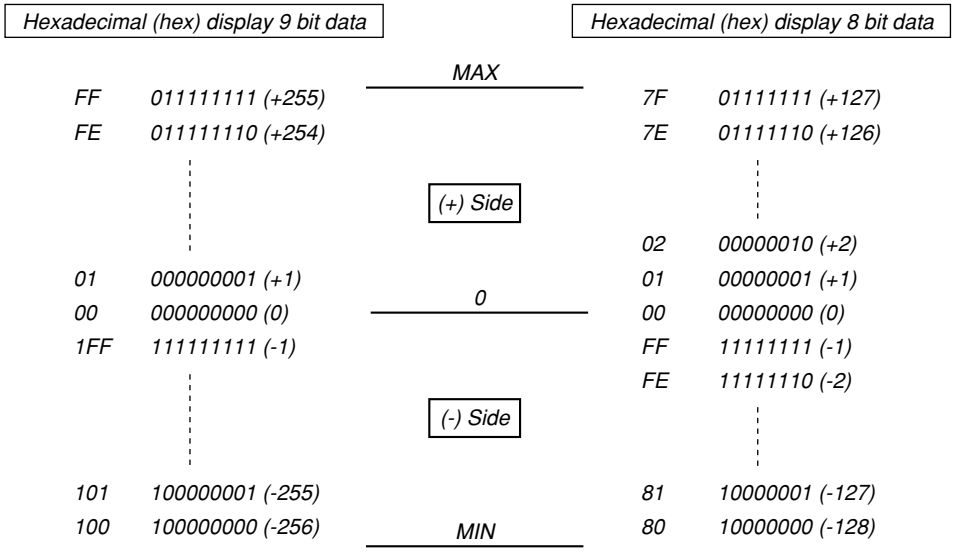
Check items		Specified value	
LOAD IN TIME (msec)	:	Not displayed in this set.	
SPIN UP TIME (msec)	: 1993	1800 to 2450	
PF/VC/FE/TE AVRG (ORG)	: 8E, E, 1E2, 12	RF: 91-C8, VC: 1F8-8, FE: 1D1-30, TE: 198-75	
PF/VC/FE/TE AVRG (ADJ)	: 9D, E, 6, 2	RF: 91-AF, VC : 1F8-8, FE: 1EE-12, TE: 1EA-16	
PI/TRVS PP (ORG/ADJ)	: 80, 129, 100, 90	PI ORG: 80-100, PI ADJ: 80-95, TRVS ORG: 53-118, TRVS ADJ: 45-132	
PIOR/CCR/TRCR	: 1B, 31, 1F	No specified value given	
FOCUS/TRK GAIN	: 29, 35	FOCUS: 1E-35, TRK: F-40	
FBIAS/TRVSC/TRCR2	: 2FE, 14, 6	F.BIAS: 1E2-3A, TRVSC: 1E4-4D TRCR2: no specified value given	
READ TOC TIME (msec)	: 1098	1350 to 2050	
PSP AMPLITUDE	: 2387	1450 to 2150	
1/3 SEEK TIME F) AVE/MIN/MAX (msec) R) AVE/MIN/MAX (msec)	: 2268581, 625121, <_>, 1446850 : 926, 909, 938 : 919, 901, 937	 AVE: 1150 msec or less, MAX: 1300 msec or less AVE: 1150 msec or less, MAX: 1300 msec or less	* Items are not used in the SATD-S5.
1/MAX SEEK TIME F) AVE/MIN/MAX (msec) R) AVE/MIN/MAX (msec)	: 2268581, 0, <_>, 2268581 : 1846, 1819, 1879 : 1837, 1829, 1849	 AVE: 2250 msec or less, MAX: 2500 msec or less AVE: 2250 msec or less, MAX: 2500 msec or less	
ERROR RATE PO MAX/AVE FRAME PO MAX/AVE NUM PI1 MAX/AVE FRAME PI1 MAX/AVE NUM PI2 MAX/AVE FRAME PI2 MAX/AVE NUM	 : 0, 0 : 480, 28 : 0, 0 : 320, 11 : 0, 0 : 41, 0	 MAX: 0, AVE: 0 MAX: 1500 or less, AVE: 200 or less MAX: 0, AVE: 0 MAX: 1500 or less, AVE: 200 or less MAX: 0, AVE: 0 MAX: 1500 or less, AVE: 200 or less	
SPIN DOWN TIME (msec)	: 1312	1300 to 2100	
LOAD OUT TIME (msec)		Not displayed in this set.	

(2) CD (Use the test disc PATD-012 or YEDS-18)

Note: Measured values in check items are typical ones.

Check items		Specified value
LOAD IN TIME (msec)	:	Not displayed in this set.
SPIN UP TIME (msec)	: 1354	1300 to 1600
RF/VC/FE/TE AVRG (ORG)	: 8E, D, 1E3, 12	RF: 91-C8, VC: 1F8-8, FE: 1D1-30, TE: 198-75
RF/VC/FE/TE AVRG (ADJ)	: 9C, C, 6, 2	RF: 91-AF, VC: 1F8-8, FE: 1EE-12, TE: 1EA-16
PI/TRVS PP(ORG/ADJ)	: 84, 128, 100, 90	PI ORG: 80-100, PI ADJ: 80-95, TRVS ORG: 55-155, TRVS-ADJ: 50-120
PIOR/CCR/TRCR	: 1B, 11, 1E	No specified value given
FOCUS/TRK GAIN	: 33, 28	FOCUS: 24-53, TRK: 1A-4E
FBIAS/TRVSC/TRCR2	: 10, 0, 5	F.BIAS: 1D9-2A, TRVSC: 1E2-19 TRCR2: no specified value given
MIN JITTER AT F.BIAS	: 147	700 or less
READ TOC TIME (msec)	: 827	1150 to 3150
1/3 SEEK TIME F) AVE/MIN/MAX (msec) R) AVE/MIN/MAX (msec)	: 311660, 103786, <_>, 207722 : 794, 699, 908 : 824, 661, 920	 AVE: 1200 msec or less, MAX: 1300 msec or less AVE: 1200 msec or less, MAX: 1300 msec or less
1/MAX SEEK TIME F) AVE/MIN/MAX (msec) R) AVE/MIN/MAX (msec)	: 311660, 0, <_>, 311660 : 1991, 1964, 2015 : 1711, 1701, 1726	 AVE: 2200 msec or less, MAX: 2500 msec or less AVE: 2200 msec or less, MAX: 2500 msec or less
ERROR RATE C1 MAX/AVE C2 MAX/AVE	 : 3, 0 : 0, 0	 C1 MAX: 15 or less C2 MAX: 0
HENSHIN RYOU (1/10um)	: 168	800 or less (100 um or less)
SPIN DOWN TIME (msec)	: 1342	450 to 1500
LOAD OUT TIME (msec)		Not displayed in this set.

Note: RF, VC, FE, TE, FBIAS and TRVSC measured values are hexadecimal data with positive and negative signs. When comparing the measured value with the specified value, refer to the following.



5-3. SACD (DL) DISC OPERATION CHECK

(• Perform as necessary)

The stability of the set can be checked by repeating the combined operation of focus jump (layer 0→1, layer 1→0) and access to the most inward track←→most outward track by the set number of times or until an error occurs using the dual layer HD disc, DL disc.

A set of operation including an access to the layer 0 (most inward track)→layer 0 (most outward track)→focus jump (layer 0→1)→layer 1 (most outward track)→layer 1 (most inward track)→focus jump (layer 1→0) is carried out repeatedly by the set number of times.

Checking Method:

1. After setting the test mode, rotate the [⏮◁ AMS ▷▷⏭] dial to select "92. SET CHECK" and press the [⏮◁ AMS ▷▷⏭] dial to enter.
2. When "SET TEST START" is displayed, rotate the [⏮◁ AMS ▷▷⏭] dial clockwise by 3 clicks to display "2. F.JMP CHECK?".
3. Press the [⏏ OPEN/CLOSE] button to open the tray, and place the DL disc.
4. Press the [⏮◁ AMS ▷▷⏭] dial to load the tray into the set.
5. "NOW SET UP" will be displayed and the DL disc setup will start. (It takes about ten and several seconds to set up the disc as two layers of layer 0 and layer 1 are adjusted)
6. At the completion of setup, "F.JUMP TIMES" will be displayed.
7. Rotate the [⏮◁ AMS ▷▷⏭] dial clockwise by 5 clicks to display "5". (If 5 sets of operation is executed *1)
8. Press the [⏮◁ AMS ▷▷⏭] dial, and the check will start.
9. Immediately when the check finished, "UP MAX □□□□"→"UP AVE □□□□"→"DW MAX □□□□"→"DW AVE □□□□"→"F.JMP OK [TIMES]" will be displayed repeatedly. (□ denotes the measured value in msec)
   - UP MAX: Max time required for layer 0 (most inward track)→layer 0 (most outward track)→focus jump (layer 0→1)
   - UP AVE: Average time required for layer 0 (most inward track)→layer 0 (most outward track)→focus jump (layer 0→1)
   - DW MAX: Max time required for layer 1 (most outward track)→layer 1 (most inward track)→focus jump (layer 1→0)
   - DW AVE: Average time required for layer 1 (most outward track)→layer 1 (most inward track)→focus jump (layer 1→0)

   Specified value: 7000 msec or less (if no error occurred)
   If an error occurred due to defocusing during the checking, refer to the following error list. (page 25)
10. Press the [⏏ OPEN/CLOSE] button, and the disc will be ejected and the check will finish. Also, if the [⏮◁ AMS ▷▷⏭] dial is pressed in step 9, "2. F.JUMP CHK OK" will be displayed. Then, if the [⏮◁ AMS ▷▷⏭] dial is again pressed, "2. F.JMP CHECK" will be displayed instantaneously and a recheck is enabled from the step 5 in the same manner.

*1 Setting arbitrary number of times instead of 5 allows the checking to be repeated by the set number of times. Also, setting 0 (zero) allows the aging check to be repeated until an error occurs.

5-4. HYBRID DISC OPERATION CHECK

(• Perform as necessary)

This test checks the auto adjustment time required when the disc is switched between HD (SACD) layer and CD layer. This test is conducted to check the stability in switching from CD to SACD, or SACD to CD in the HYBRID disc.

A set of operation including CD layer stop state→HD layer auto adjustment→HD layer TOC reading→HD layer stop state→CD layer auto adjustment→CD layer TOC reading→CD layer stop state is repeated by the set number of times.

Checking Method:

1. After setting the test mode, rotate the [⏮◁ AMS ▷▷⏭] dial to select "92. SET CHECK" and press the [⏮◁ AMS ▷▷⏭] dial to enter.
2. When "SET TEST START" is displayed, rotate the [⏮◁ AMS ▷▷⏭] dial clockwise by 4 clicks to display "3. HYB CHECK?".
3. Press the [⏏ OPEN/CLOSE] button to open the tray, and place the HYBRID disc.
4. Press the [⏮◁ AMS ▷▷⏭] dial to load the tray into the set.
5. "NOW SET UP" will be displayed and the HYBRID disc setup will start. (It takes about several seconds to set up the disc *1)
6. At the completion of setup, "CHANGE TIMES?" will be displayed.
7. Rotate the [⏮◁ AMS ▷▷⏭] dial clockwise by 5 clicks to display "5" (if 5 sets of operation is executed *2)
8. Press the [⏮◁AMS▷▷⏭] dial, and "START" will be displayed and the check will start. During the check, the following will be displayed.
   "CD—>HD" display: Time from switching from CD layer to HD layer up to start of play is measured.
   "HD—>CD" display: Time from switching from HD layer to CD layer up to start of play is measured.
9. Immediately when the check finished, "CD MAX □□□□"→"CD AVE □□□□"→"HD MAX □□□□"→"HD AVE □□□□" will be displayed repeatedly. (□ denotes the measured value in msec)
   Specified value: 10000 msec or less (if no error occurred)
   If an error occurred due to defocusing during the checking, refer to the following error list. (page 25)
10. Press the [⏏ OPEN/CLOSE] button, and the disc will be ejected and the check will finish. Also, if the [⏮◁ AMS ▷▷⏭] dial is pressed in step 9, "HYB CHK OK" will be displayed. Then, if the [⏮◁AMS▷▷⏭] dial is again pressed, "HYBRID CHECK" will be displayed instantaneously and a recheck is enabled from the step 5 in the same manner.

*1 "NOW SET UP" display may continue for several minutes and an error may be displayed depending on the discs. In this case, press the [⏮◁ AMS ▷▷⏭] dial again.

*2 Setting arbitrary number of times instead of 5 allows the checking to be repeated by the set number of times. Also, setting 0 (zero) allows the aging check to be repeated until an error occurs

5-5. CDM59 AND THE DOOR CHECK

Measurement of table rotation hours, tray open/close hours and panel door open close hours can be executed together with CDM59.

Procedure

1. Set the test mode. Turn the [⏮ AMS ⏭] dial and select 59 Table Init. Press [⏮ AMS ⏭] once (that enables the [⏏ OPEN/CLOSE] key.)
2. When the message INITIAL OK appears, press the [⏏ OPEN/CLOSE] key to eject the tray. Place a disc in the DISC1 of the table. (Be sure to place a disc in DISC1. If a disc is placed in any locations other than DISC1, the correct measurement cannot be executed. Therefore, be sure to place a disc in DISC by using the [DISC SKIP] key.)
3. Select 58 CDM Check by turning [⏮ AMS ⏭] and press [⏮ AMS ⏭] once.
4. Measurement starts automatically.
5. When the measurement is completed, the message DOOR OP ☐☐.☐ (☐ is a decimal number) appears on the fluorescent indicator tube.
6. Result of measurement can be check by turning [⏮AMS⏭]. If any measurement item does not meet specification, a message “ng” is displayed next to the measurement value.
7. When you want to repeat the test, press [⏮AMS⏭] again.
8. Press the [⏏ OPEN/CLOSE] key to terminate the test and remove the disc.

   * 1.The measurement can be performed without placing a disc. However, the BU chucking time and unchucking time will be slightly different from the actual values.
   * 2.When the machine enters this mode once, it cannot return to the normal test mode. If any other tests are desired, turn off the main power once and then back on again to enter the test mode.

Measurement items and specifications

Measurement item	Description	Specifications (unit: second)
RL	Time required for the table to make one complete rotation. (R: Clockwise rotation. L: Counter-clockwise rotation)	6.0 to 7.5
CLOSE	Time required to close the tray.	<3.7
BU UP	Time required for the BU block to perform chucking from the DOWN position	<1.4
EXOPEN	The XCHANGE OPEN time	<2.6
EXCLOSE	The EXCHANGE CLOSE time	<3.8
BU DOWN	Time required for the BU block to perform unchucking and going to the DOWN position	<2.7
OPEN	Time required to open the tray	<3.2

5-6 . AGING MODE

(• Perform as necessary)

5-6-1. The aging can be performed to the set in the test mode.

The aging can be continued by the set number of times or until an error occurs.

In the aging, the following operations are repeated.

Table turn→Disc chucking→Disc detect→Servo on→Auto adjustment→TOC reading→Play of first track for 5 second→Play of last track for 5 second→Play of first track for 5 second→Disc unchucking

Setting Method:

1. After setting the test mode, rotate the [⏮ AMS ⏭] dial to select "94. SET AGING" and press the [⏮ AMS ⏭] dial to enter.
2. When "AGING TIMES" is displayed, rotate the [⏮ AMS ⏭] dial to set the number of aging times. (For the number of times, every 10 times can be set. Setting 0 (zero) eliminates the count limitation where the aging is repeated until an error occurs)
   Note: Do not perform unmanned overnight aging..
3. Press the [⏮ AMS ⏭] dial, and "AGING START" will be displayed instantaneously, then "DISC IN & JOG ON" will be displayed and the tray will come out automatically.
4. Place a disc (CD or the SACD SL disc) on the tray. In the case of SCD-C222ES, the multiple discs can be placed. Even when the discs (CD or the SACD SL disc) of different types are mixed, the aging test can be performed. Use the [DISC SKIP] key when placing a disc. When discs are placed in positions, turn the [⏮ AMS ⏭] dial.
5. The aging test starts.
6. At the completion of aging by the set number of times, the tray will come out automatically and the check will stop.
   Typical time required for aging About 1 hour/100 times
   "AGING SUCCESS!" will be displayed if no error occurred in the aging, or the error will be displayed if an error occurred. (Refer to the following error list)

5-6-2. Aging Mode of the Panel Door Independently

1. Start up the unit in the normal operation mode.
2. While press the [■] key, turn the [⏮ AMS ⏭] dial and then press the [CONTINUE] key. (The program does not advance if these keys are not pressed in the above sequence.)
3. The panel door repeats opening and closing.
4. The messages "AP-B 000000" (during open) → "AP-C 000000" (during close) are repeated on the FL display. Number of times of open/close are displayed in decimal number in "000000" with OPEN/CLOSE as a set.
5. Press the [■] key to terminate the aging mode and to return to the normal mode.

5-7. SHIPPING MODE

The repaired set must be initialized, and for this purpose the set should be set to the shipping mode.

Setting Method:

1. After setting the test mode, rotate the [⏮ AMS ⏭] dial to select "8d Set Up Init" and press the [⏮ AMS ⏭] dial to enter.
2. "8D 000000000 00" will be displayed, and if the scroll starts in the left direction, the set initialization has completed
3. Press the [POWER] button to turn the power off.

Note: Take care not to leave the test disc in the set.

The following setups are established in the SHIPPING MODE

1. Initialization of EEPROM (IC903)
   - PLAY MODE ALL DISCS, CONTINUE
   - COMMAND MODE CD1
   - LAYER SELECTSACD
   - M/2CH SELECT MULTI
   - DIGITAL FILTER STD
   - 2ch SPK MODE 2ch DIRECT
   - Mch SPK MODEMch DIRECT
   - Resetting the accumulated hours meter.
2. Chucking at the DISC1 position.

Error List

An error occurring during the check in the aging mode of the test mode is displayed automatically (scroll display) immediately when the error occurred.

< How to view the error history >

1. Select "95 DISP ERROR" with the [⏮ AMS ⏭] key, and press the [⏮ AMS ⏭] key once.
2. The error that has occurred lastly in the set and the signal status (H = 1, L = 0) at that time are displayed on the FL display by scrolling. (Types of the errors and the signal status that can be checked, are the same as the error display of the aging mode.)
3. Press the [⏮ AMS ⏭] key once again to show the error history repeatedly.
4. When the error history is displayed with scrolling once, the mode returns to the normal test mode.

Error display is as follows.
Error name, Disc type, IN SW (Sled in switch state), FOK (FOK signal state), LOCK (LOCK signal state), From (Displayed if effective), To (Displayed if effective), Aging times (Displayed in aging mode only)
Display example
ACCESS MOVE ERROR : SACDSL : IN SW 1 FOK 0 LOCK 0 : FROM 205663 : TO 2461601 : TIMES 5
(Error name) (Disc type) (Sled in switch, FOK, LOCK signal state) (Relative address) (Relative address)(Aging times)

Display Items List:

Display items	Description	Remarks
Error name	→Refer to the error display list	
IN SW	Sled in switch state when an error occurred 0: switch off Not limit in 1: switch on Limit in (Optical pick-up is at most inward track)	
FOK	FOK signal state when an error occurred FOK signal Is focus on? 0: FOK L (Focus off), 1: FOK H (Focus on)	
LOCK	LOCK signal state when an error occurred. LOCK signal Is PLL lock? 0: LOCK L Not lock, 1: LOCK H Lock	
From	Displayed if effective in the error item →Refer to the error display list	Disc PSN (relative address) is displayed in case of access error
To	Displayed if effective in the error item →Refer to the error display list	Disc PSN (relative address) is displayed in case of access error

Error Display List:

Error display	Error description	Main causes of errors
DISC DETECT ERROR	Disc type error MIRR measured time is displayed in From:	Optical pick-up, RF amplifier or CD DSP IC is faulty
OFFSET ADJUST ERROR	Offset adjustment error	Optical pick-up, RF amplifier or CD DSP IC is faulty
FCS SRV ON ERROR	Focus servo error An error code is displayed in From:	From:1 means focus search failed From:2 means defocusing
CLV SRV ON ERROR	CLV servo error	Defocusing
E-F BALANCE ERROR	E-F balance adjustment error	Defocusing
TRK SRV ON ERROR	Tracking servo error	Tracking servo on time out Optical pick-up, RF amplifier or CD DSP IC is faulty
SLD SRV ON ERROR	Sled servo error	Sled servo on time out
FOCUS BIAS ERROR	Focus bias adjustment failed An error code is displayed in From:	Defocusing during adjustment Description of display An error code is displayed in From From:1 means retry failed 3 times From:2 means abnormal value Optical pick-up, RF amplifier or CD DSP IC is faulty
FCS AGC ERROR	Error at focus gain automatic adjustment	Defocusing during adjustment Optical pick-up, RF amplifier or CD DSP IC is faulty
TRK AGC ERROR	Error at tracking gain automatic adjustment	Defocusing during adjustment Optical pick-up, RF amplifier or CD DSP IC is faulty
ACCESS 1TJ ERROR	Access Error at one-track jump Effective addresses (PSN) are displayed in From: and To:	Access failed Defocusing at access, etc
ACCESS FINE ERROR	Access Error at fine search Effective addresses (PSN) are displayed in From: and To:	Access failed Defocusing at access, etc
ACCESS MOVE ERROR	Access Error at M-track MOVE Effective addresses (PSN) are displayed in From: and To:	Access failed Defocusing at access, etc
WHILE PLAYING ERROR	Error during disc playing	Defocusing Focusing retry failed
FCS JUMP ERROR	Time out error at focus jump	Defocusing Focusing retry failed

System errors are as follows.
Note: This error is not saved in the set.

Display	Description
Toc Error *	Error during the time from auto adjustment to TOC reading, Different type of disc (Such as a DVD disc), Disc is dirty
Toc Error ****	Illegal SACD (Such as a pirated version)
Read Error	Music data read error (Error during disc playing)

5-8. WAVEFORMS CHECK

This set performs automatic adjustment for each disc, and therefore the set need not be adjusted when parts are replaced, but it requires checking following the description in this section, 5-1. IC AND FLUORESCENT DISPLAY TUBE CHECK and 5-2. AUTO CHECK.
For the check, the test mode is used. Wrong setting causes a trouble, thus requiring extreme care.

BU Electrical Adjustment Mode

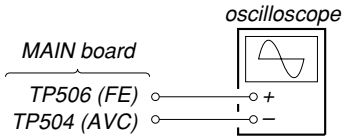
The BU electrical adjustment mode is used to check the S curve waveform, traverse waveform and RF waveform. After a disc is placed on the tray, each time the |◁◁ AMS ▷▷| dial is pressed, the check mode is switched in order for S curve waveform→ traverse waveform→RF waveform.

Setting Method:

After setting the test mode, rotate the |◁◁AMS▷▷| dial to select "9C BU DENCHO" and press the |◁◁ AMS ▷▷| dial to enter. "BU MEASURE" will be displayed if the BU electrical adjustment mode becomes active.

S Curve Check

Connection:



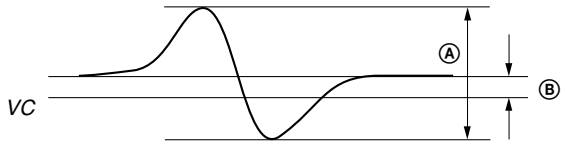
Checking Method:

1. After setting the BU electrical adjustment, place the test disc (PATD-012 or SATD-S5 or SATD-S4) on the tray and close the tray, then press the |◁◁ AMS ▷▷| dial.
2. At the completion of disc type check, "CD DETECT" will be displayed (for PATD-012 or YEDS-18).
   Note: For the SATD-S5 or SATD-S4, "SACD DETECT" is displayed.
3. Press again the |◁◁AMS▷▷| dial, and the S curve waveform check mode will become active and "S-CURVE MODE" will be displayed.
4. Connect an oscilloscope to the TP506 (FE) and TP504 (AVC) on the MAIN board.
5. Check that the level Ⓐ and Ⓑ of waveform on the oscilloscope satisfy the specification.

Specified Value:

Disc	Ⓐ	Ⓑ
SATD-S5 or SATD-S4	0.7 to 1.7 Vp-p	–0.1 to +0.1V
PATD-012 or YEDS-18		

S curve waveform

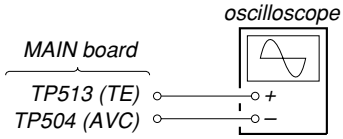


Note: For easier observation of this waveform, extend the sweep time and raise the brightness.

Checking and Connecting Location : See page 29.

Traverse Check

Connection:



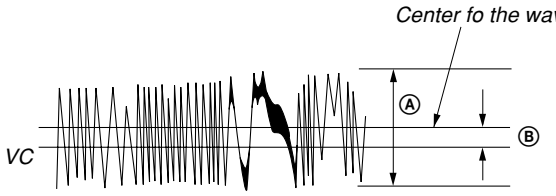
Checking Method:

1. Under the condition of S curve waveform check mode in step 5, press the |◁◁ AMS ▷▷| dial.
2. After "WAIT" is displayed, the traverse waveform check mode will become active and "TRAVERSE MODE" will be displayed.
3. Connect an oscilloscope to the TP513 (TE) and TP504 (AVC) on the MAIN board.
4. Check that the level Ⓐ and Ⓑ of waveform on the oscilloscope satisfy the specification.

Specified Value:

Disc	Ⓐ	Ⓑ
SATD-S5 or SATD-S4	0.6 to 1.6 Vp-p	–0.1 to +0.1V
PATD-012 or YEDS-18	0.5 to 1.3 Vp-p	

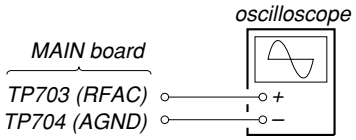
Traverse waveform



Checking and Connecting Location : See page 29.

RF Level Check

Connection:



Checking Method:

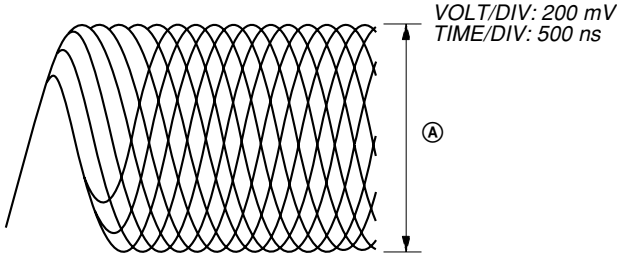
1. Under the condition of traverse waveform check mode in step 4, press the [I◁◁ AMS ▷▷I] dial.
2. Connect an oscilloscope to the TP703 (RFAC) and TP704 (AGND) on the MAIN board.
3. After "WAIT" is displayed, the RF waveform check mode will become active and "PLAY 5th TRACK" will be displayed, and the 5th music on the disc will be played.
4. Check that the RF waveform is clear and the level satisfies the specification.
5. Press the [I◁◁ AMS ▷▷I] dial, and "OUTSIDE TRACK" will be displayed and the outward track of the disc will be played.
6. Check that the RF waveform is clear and the level satisfies the specification.
7. Press the [I◁◁ AMS ▷▷I] dial, and "INSIDE TRACK" will be displayed and the inward track of the disc will be played.
8. Check that the RF waveform is clear and the level satisfies the specification.
9. After checking, press the [I◁◁ AMS ▷▷I] dial, and the test is over when "BU MEASURE" is displayed.
10. Press the [⏏ OPEN/CLOSE] button to open the tray, and remove the test disc.
11. Using each type of disc, repeat from step 1 of S curve waveform check up to step 10 of RF level check.
12. When the check is over, press the [POWER] button to turn the power off.

Note: Take care not to leave the test disc in the set.

Specified Value:

Disc	Ⓐ
SATD-S5 or SATD-S4	0.65 to 1.1 Vp-p
PATD-012 or YEDS-18	0.45 to 0.95 Vp-p

RF signal waveform

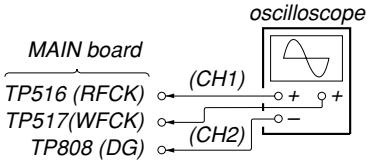


Note: Clear RF waveform refers to the waveform where ◊ shapes should be distinctively observed in the center.

Checking and Connecting Location : See page 29.

CLV Jitter Check (CD only)

Connection:



Checking Method:

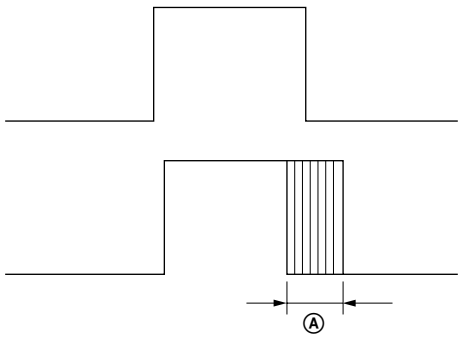
1. Set the test mode.
2. Connect an oscilloscope to the TP516 (RFCK) (CH1), TP517 (WFCK) (CH2) and TP808 (DG) (GND) on the MAIN board.
3. Place the test disc PATD-012 or YEDS-18 on the tray, and close the tray.
4. Rotate the [I◁◁ AMS ▷▷I] dial to select "61 DISC DETECT", and press the [I◁◁ AMS ▷▷I] dial to enter. Then, the disc type will be judged.
5. Check that the disc type has been judged.
   (For the PATD-012, "DSKMOD CD" will be displayed. Refer to the test mode, DISC DETECT command (page 16))
6. Rotate the [I◁◁ AMS ▷▷I] dial to select "86 ALL SRV ON", and press the [I◁◁ AMS ▷▷I] dial. Then, the disc will rotate, automatic adjustment will be carried out, and all servos will be turned on.
7. Rotate the [I◁◁ AMS ▷▷I] dial to select "07 DSP MON3", and press the [I◁◁ AMS ▷▷I] dial to enter.
8. Check that the value Ⓐ of waveform on the oscilloscope satisfies the specification.
9. Rotate the [I◁◁ AMS ▷▷I] dial to select "19 ALL SRV OFF", and press the [I◁◁ AMS ▷▷I] dial. Then, all servos will be turned off and the disc rotation will stop.
10. Press the [⏏ OPEN/CLOSE] button to open the tray, and remove the test disc.
11. Press the [POWER] button to turn the power off.

Note: Take care not to leave the test disc in the set.

Specified Value:

Disc	Ⓐ
PATD-012 or YEDS-18	35 µsec or less

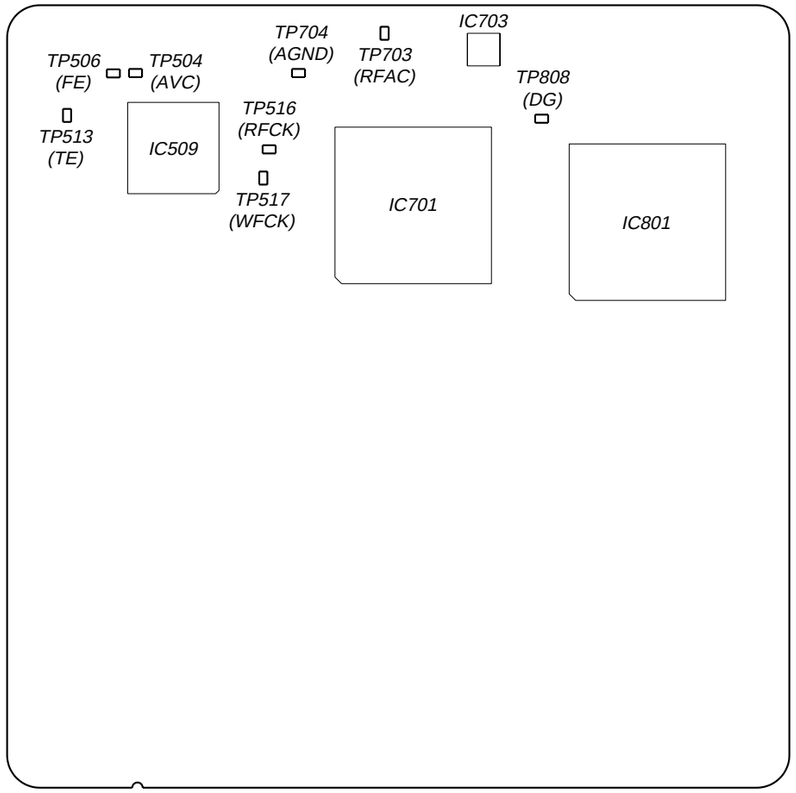
CLV jitter waveform



Checking and Connecting Location : See page 29.

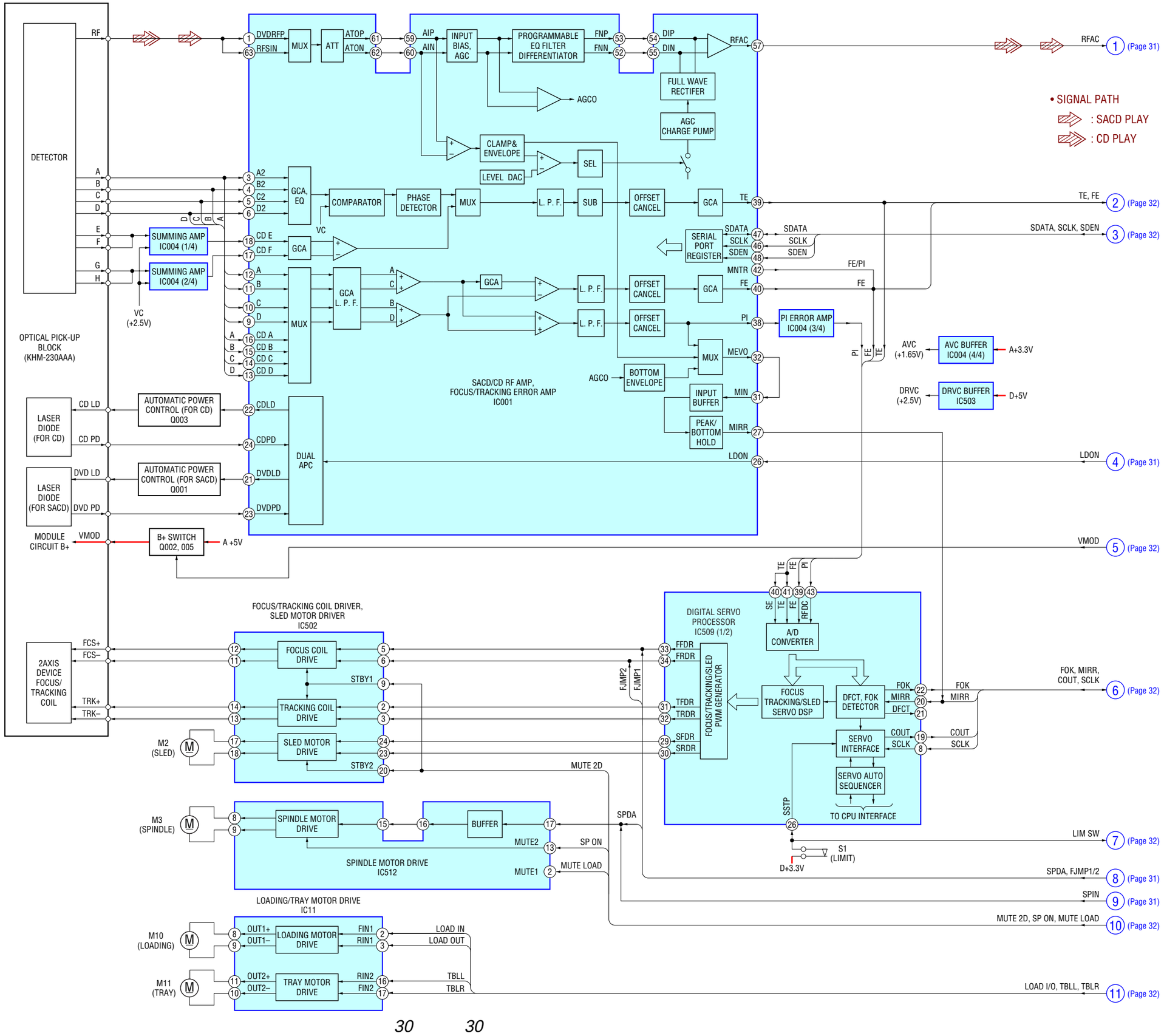
Checking and Connecting Location:

– MAIN Board (Component Side) –

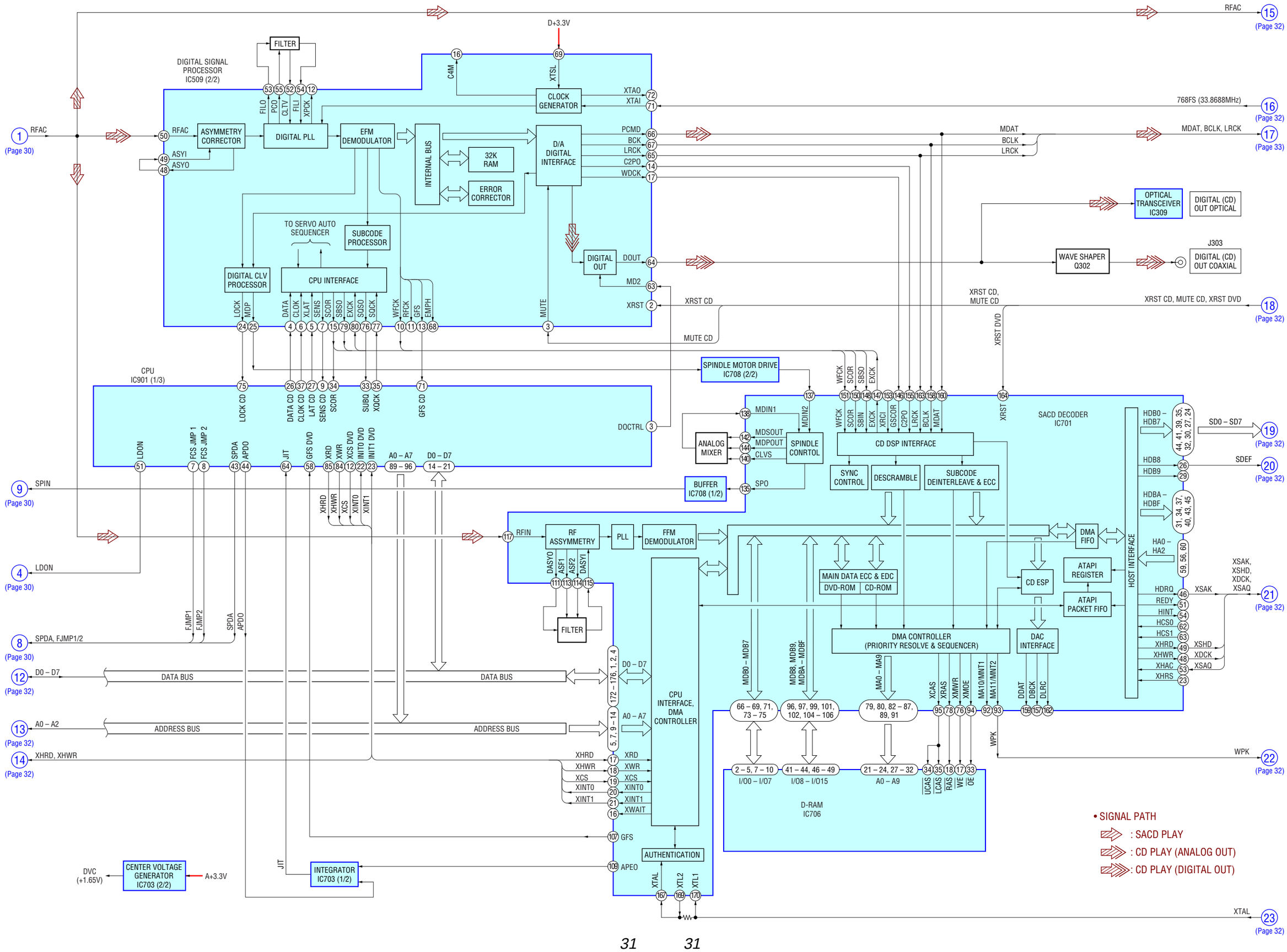


SECTION 6
DIAGRAMS

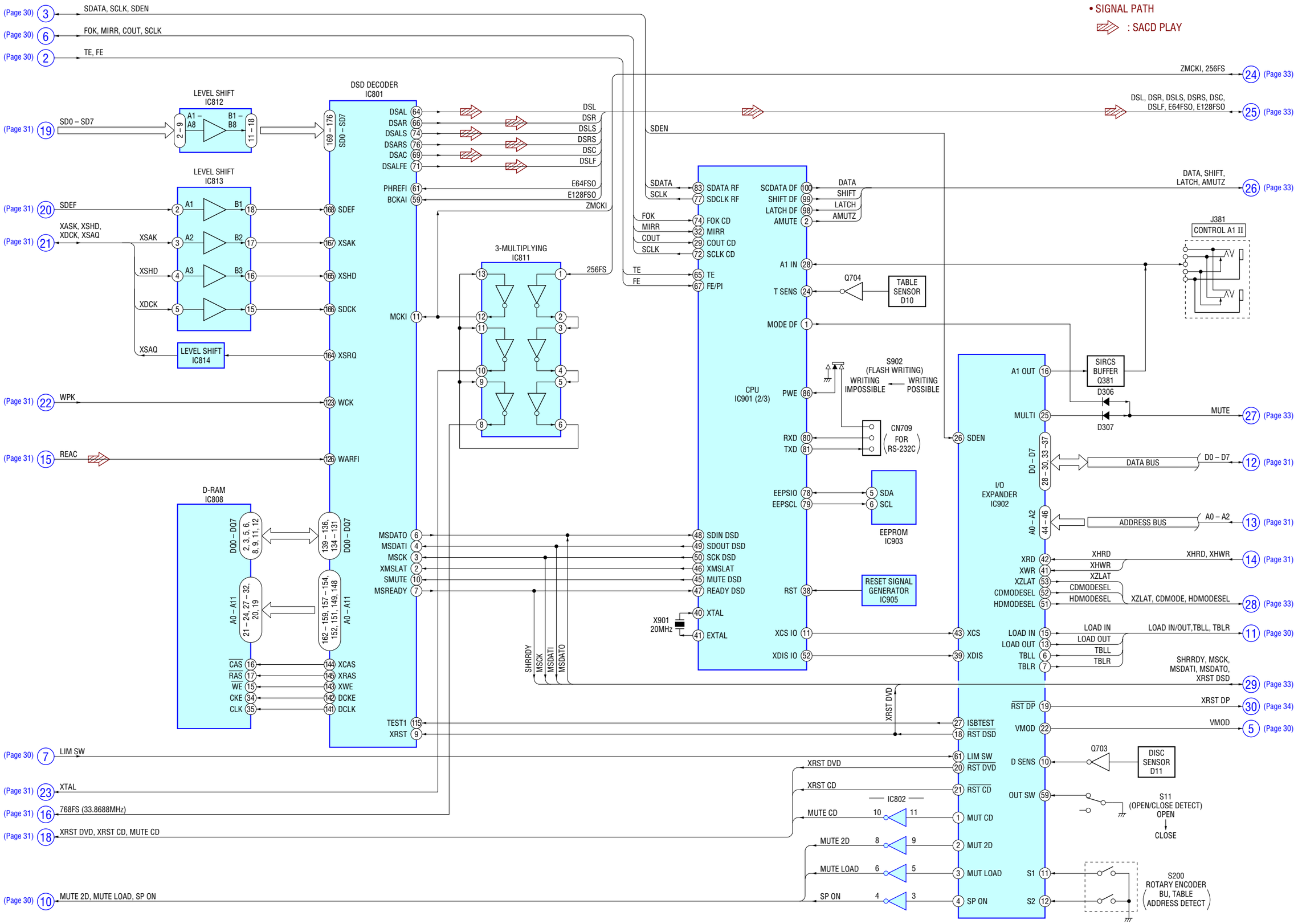
6-1. BLOCK DIAGRAM – RF/SERVO Section –



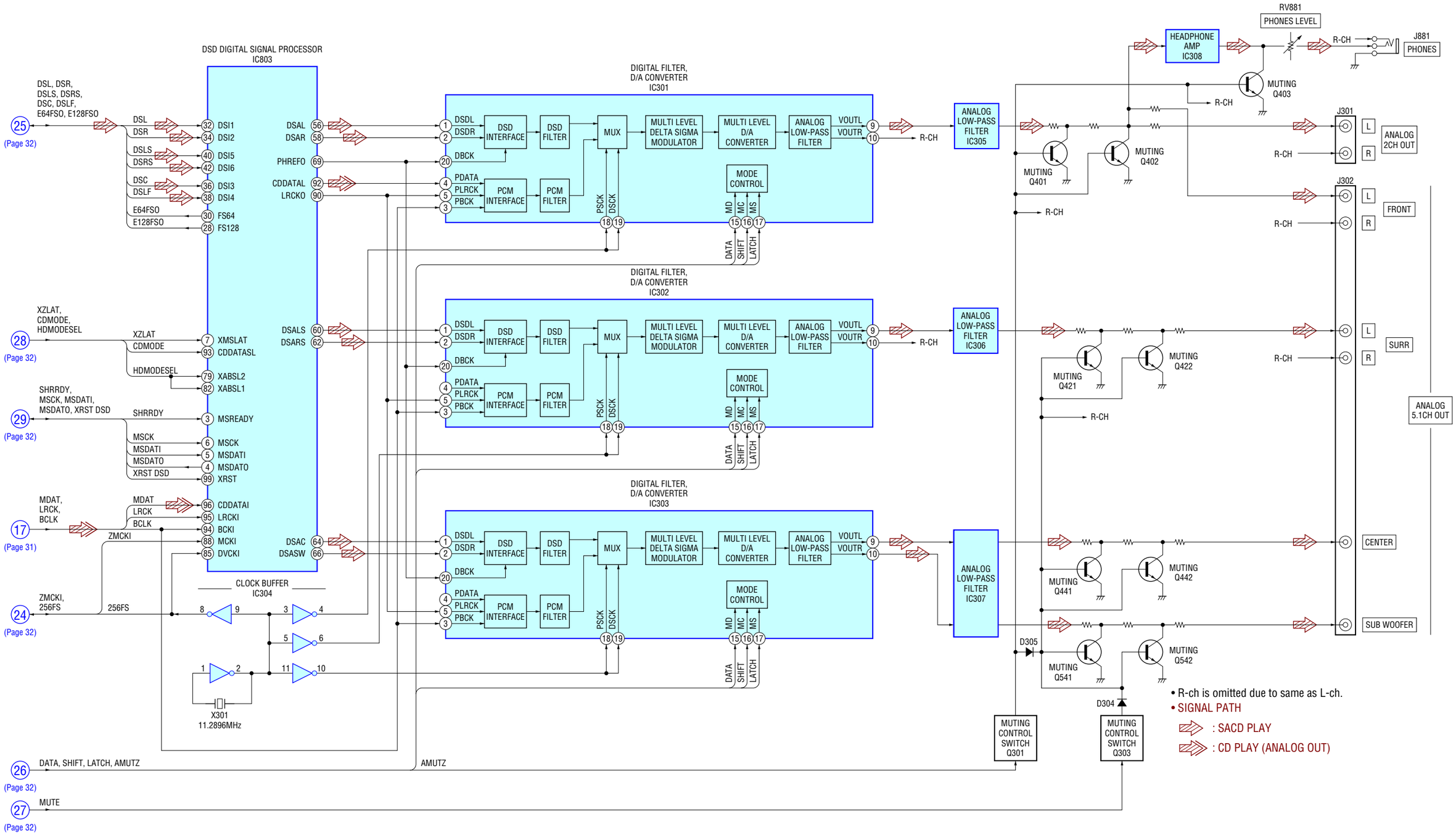
6-2. BLOCK DIAGRAM – SERVO Section –



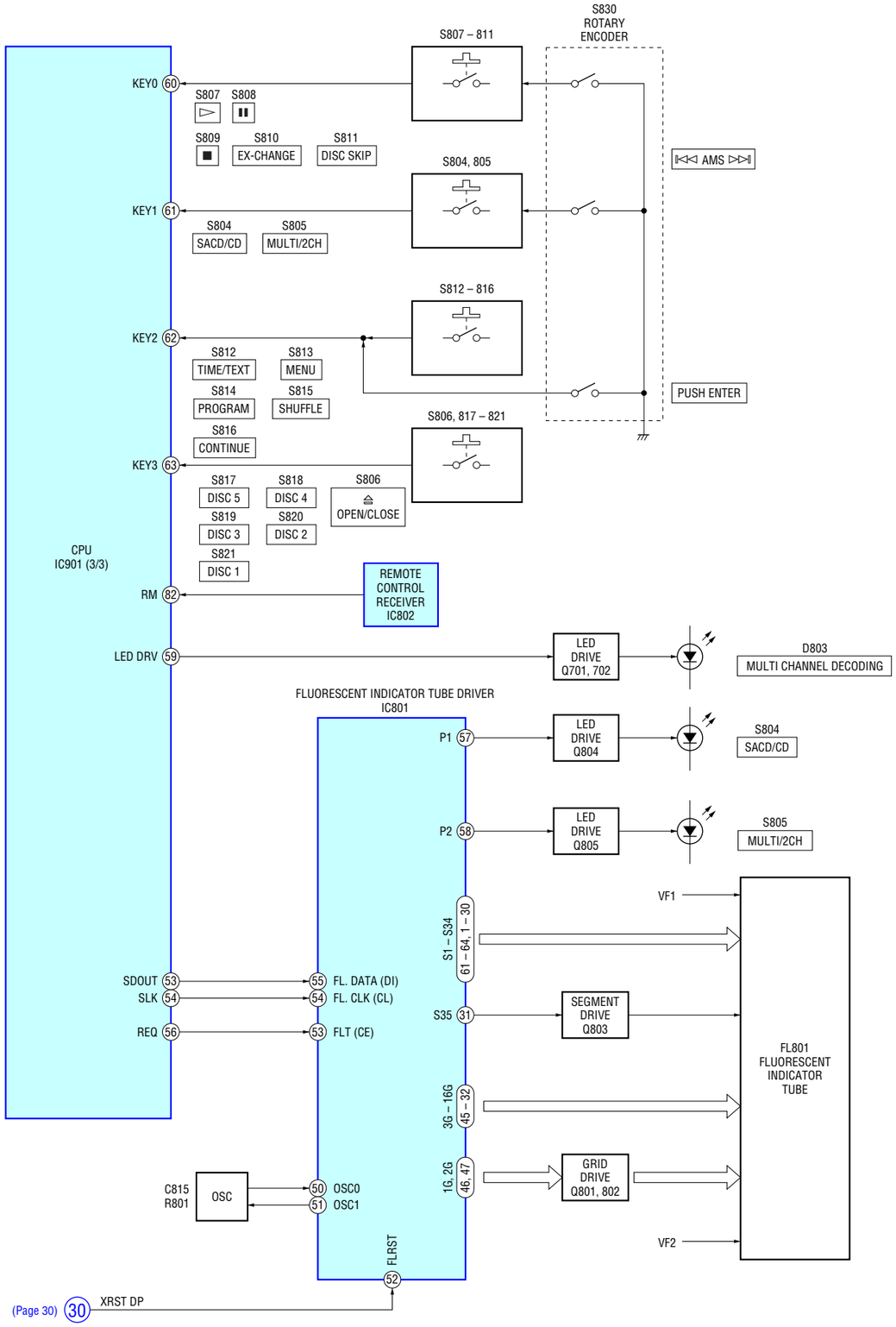
6-3. BLOCK DIAGRAM – MAIN Section –

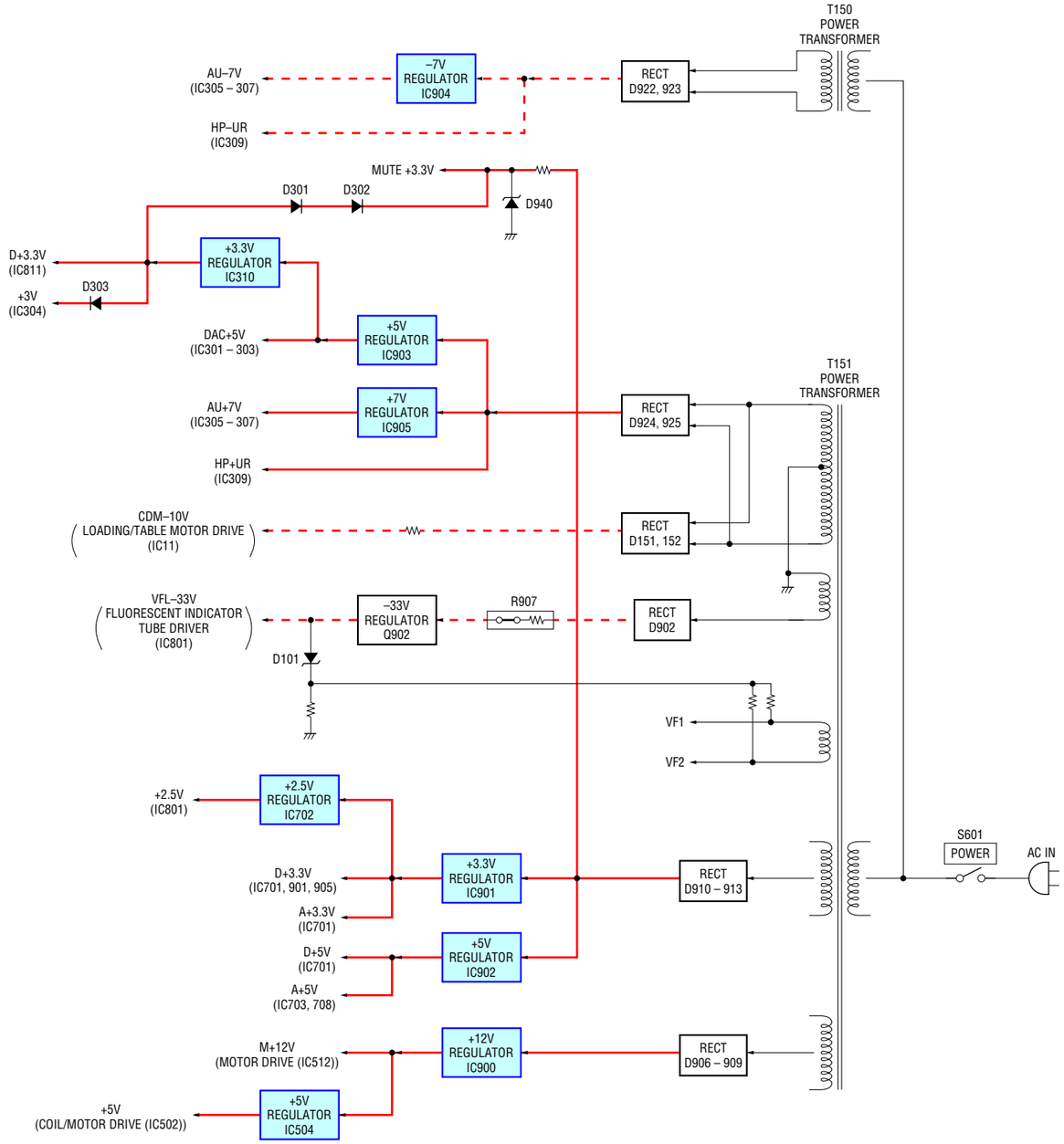


6-4. BLOCK DIAGRAM – AUDIO Section –



6-5. BLOCK DIAGRAM – DISPLAY/KEY CONTROL/POWER SUPPLY Section –





6-6. NOTE FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

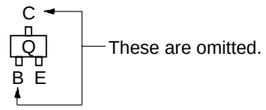
Note on Printed Wiring Board:

- ○——— : parts extracted from the component side.
- ——— : parts extracted from the conductor side.
- ▬ : Pattern from the side which enables seeing.

(The other layers' patterns are not indicated.)

Caution:	
Pattern face side: (Conductor Side)	Parts on the pattern face side seen from the pattern face are indicated.
Parts face side: (Component Side)	Parts on the parts face side seen from the parts face are indicated.

- Main board is multi-layer printed board.
  However, the patterns of intermediate-layer have not been included in diagram.
- Indication of transistor



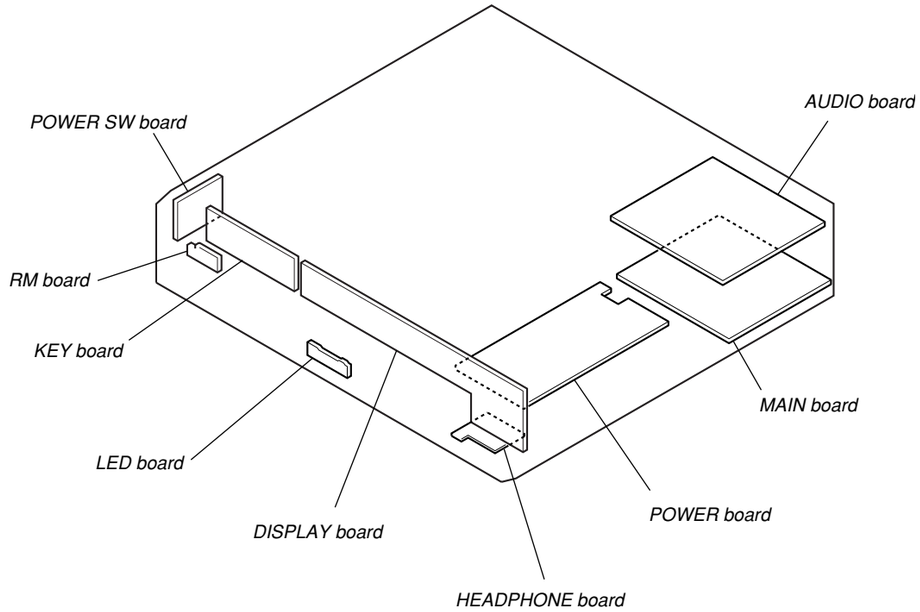
Note on Schematic Diagram:

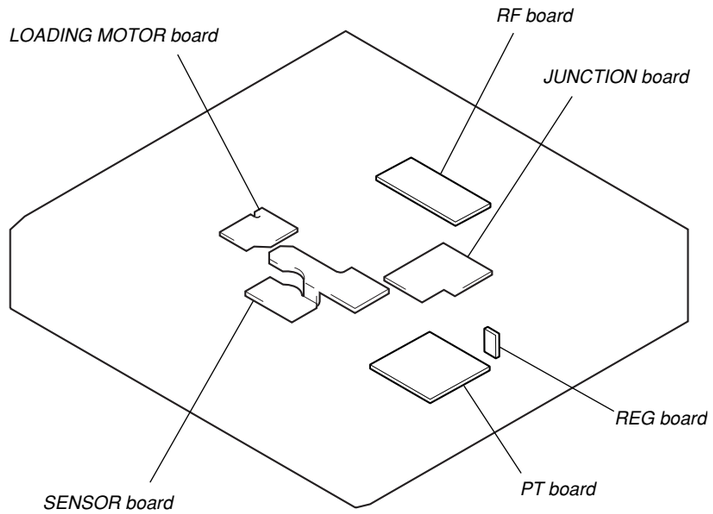
- All capacitors are in µF unless otherwise noted. pF: µµF
  50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- △ : internal component.
- : fusible resistor.
- : panel designation.

Note:	**Note:**
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

- ▬ : B+ Line.
- ▬ ▬ ▬ : B– Line.
- Voltages and waveforms are dc with respect to ground under no-signal conditions.
  no mark : SACD PLAY
  ( ) : CD PLAY
  ✻ : Impossible to measure
- Voltages are taken with a VOM (Input impedance 10 MΩ).
  Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope.
  Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  : SACD PLAY
  : CD PLAY (ANALOG OUT)
  : CD PLAY (DIGITAL OUT)

- **Circuit Boards Location**



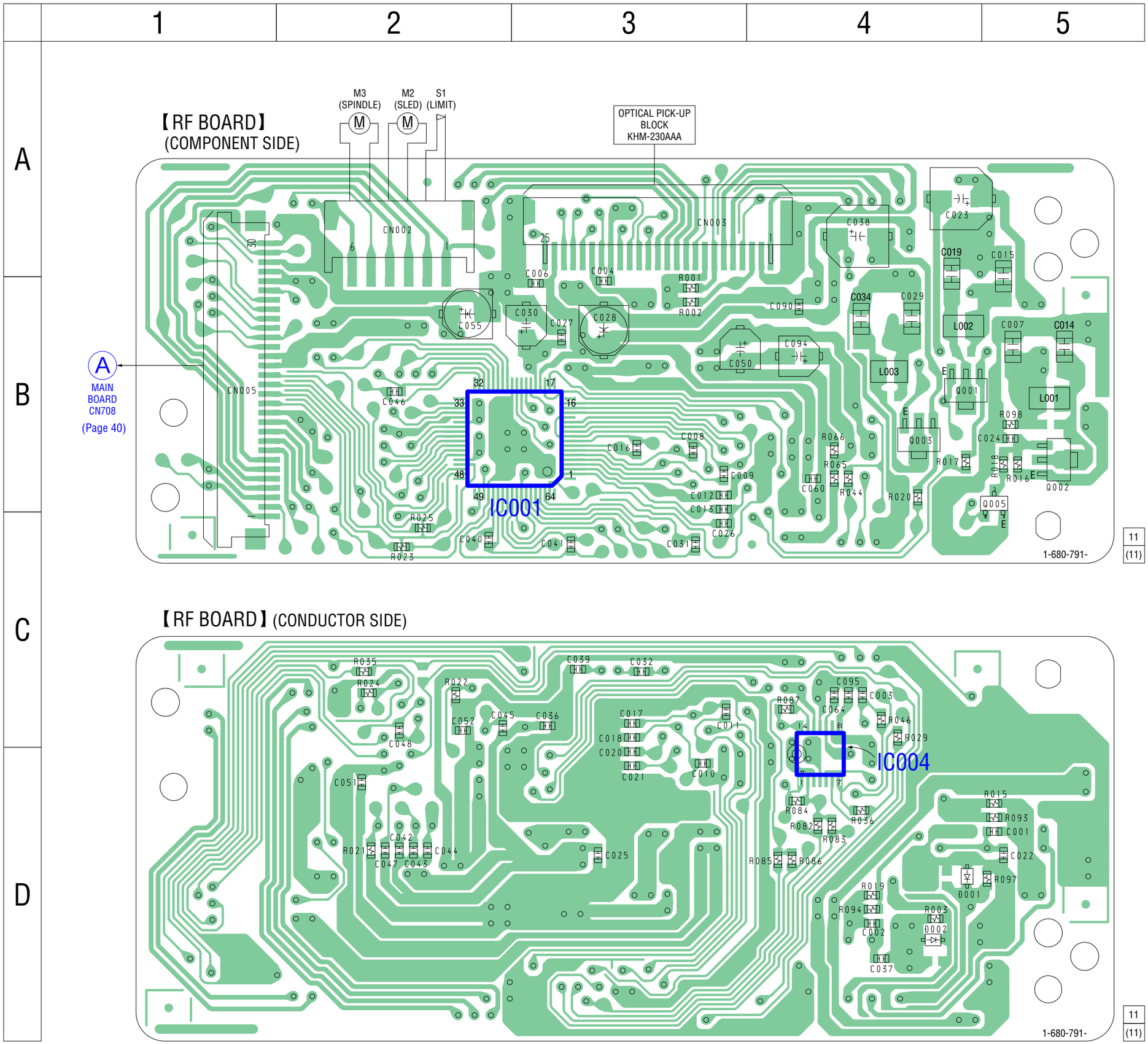


6-7. PRINTED WIRING BOARD – RF Board –

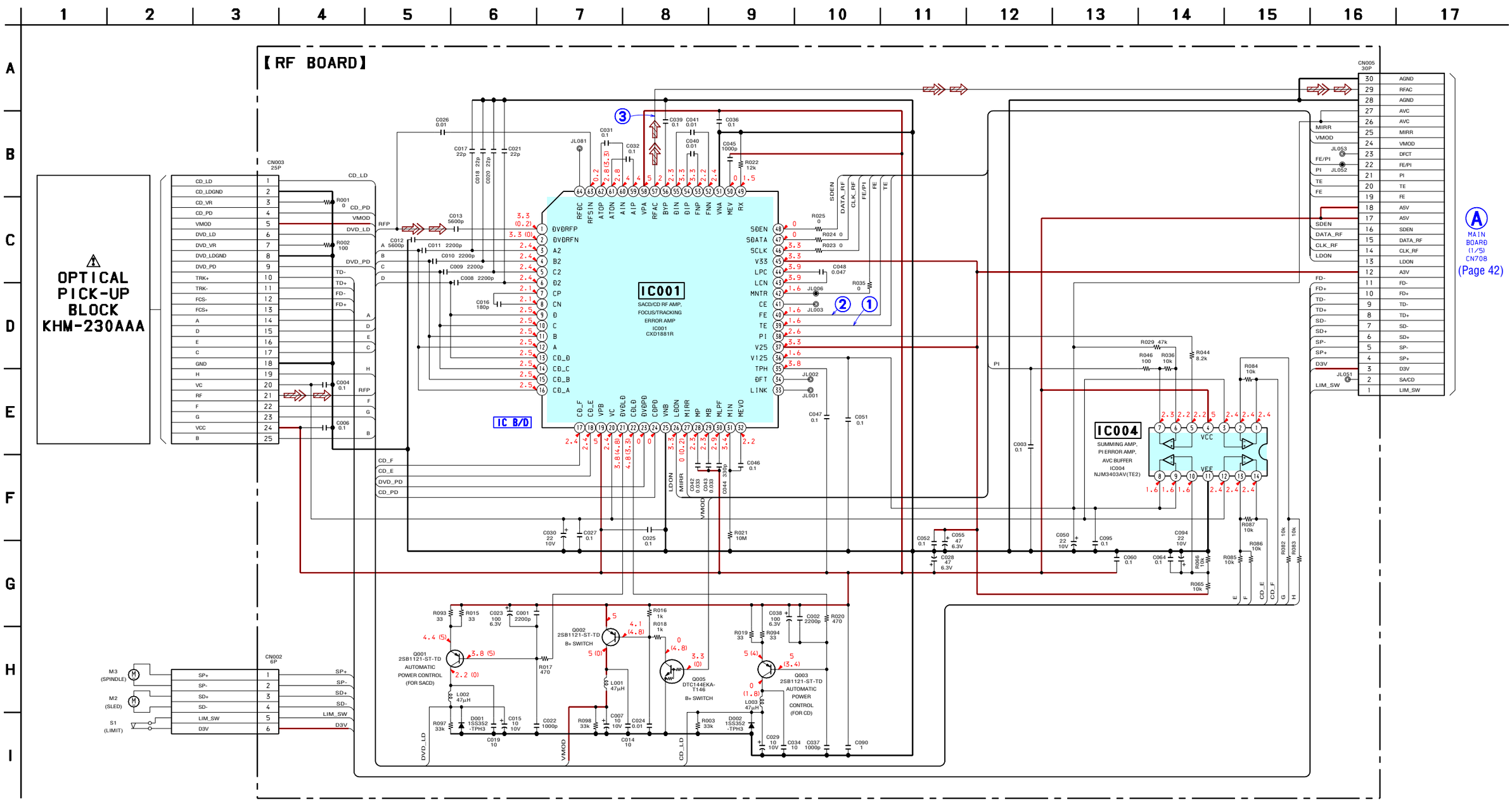
• See page 35 for Circuit Boards Location.

• **Semiconductor Location**

Ref. No.	Location
D001	D-4
D002	D-4
IC001	B-3
IC004	D-4
Q001	B-4
Q002	B-5
Q003	B-4
Q005	B-5

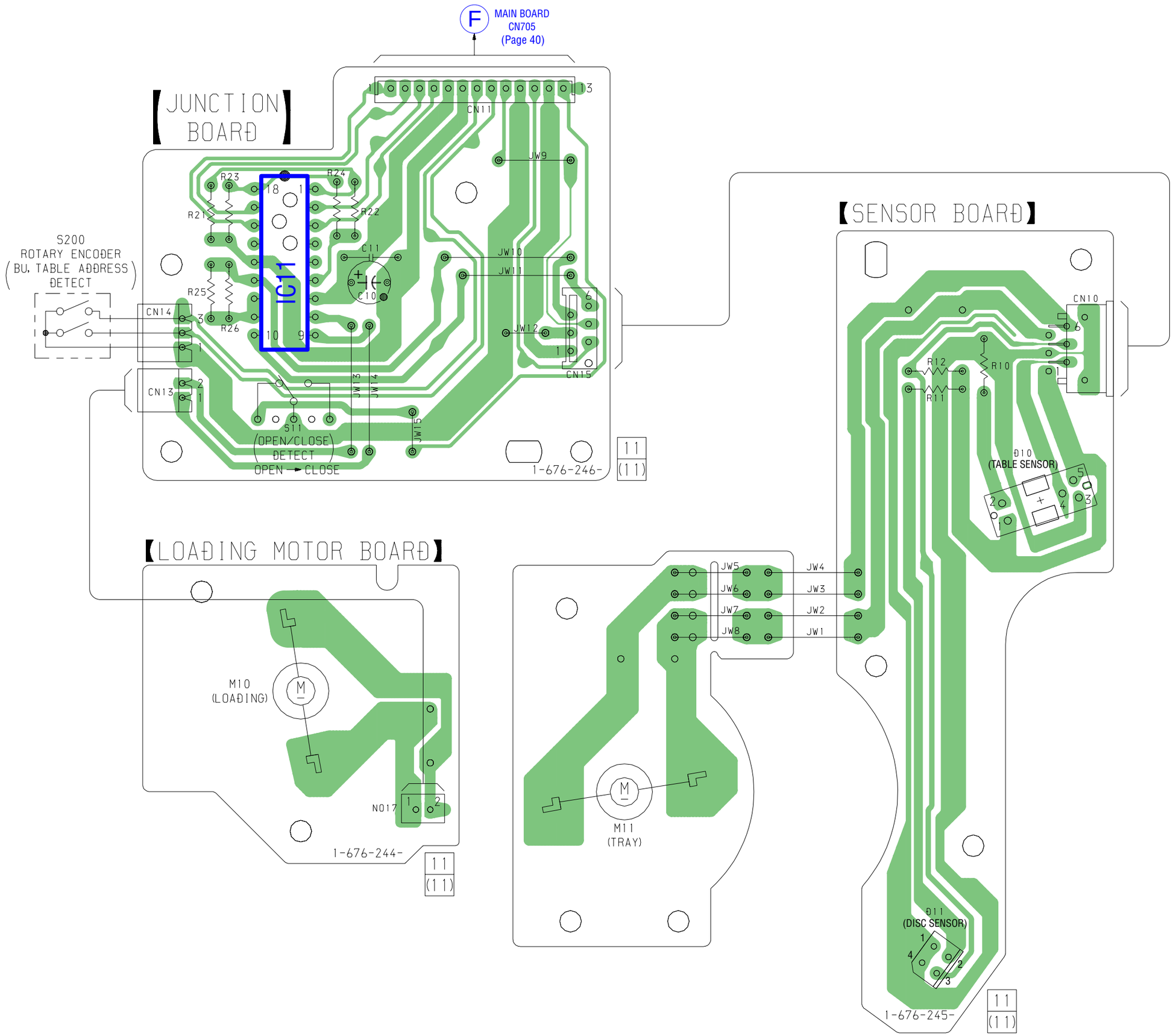


6-8. SCHEMATIC DIAGRAM – RF Board – • See page 55 for Waveforms. • See page 59 for IC Block Diagram.

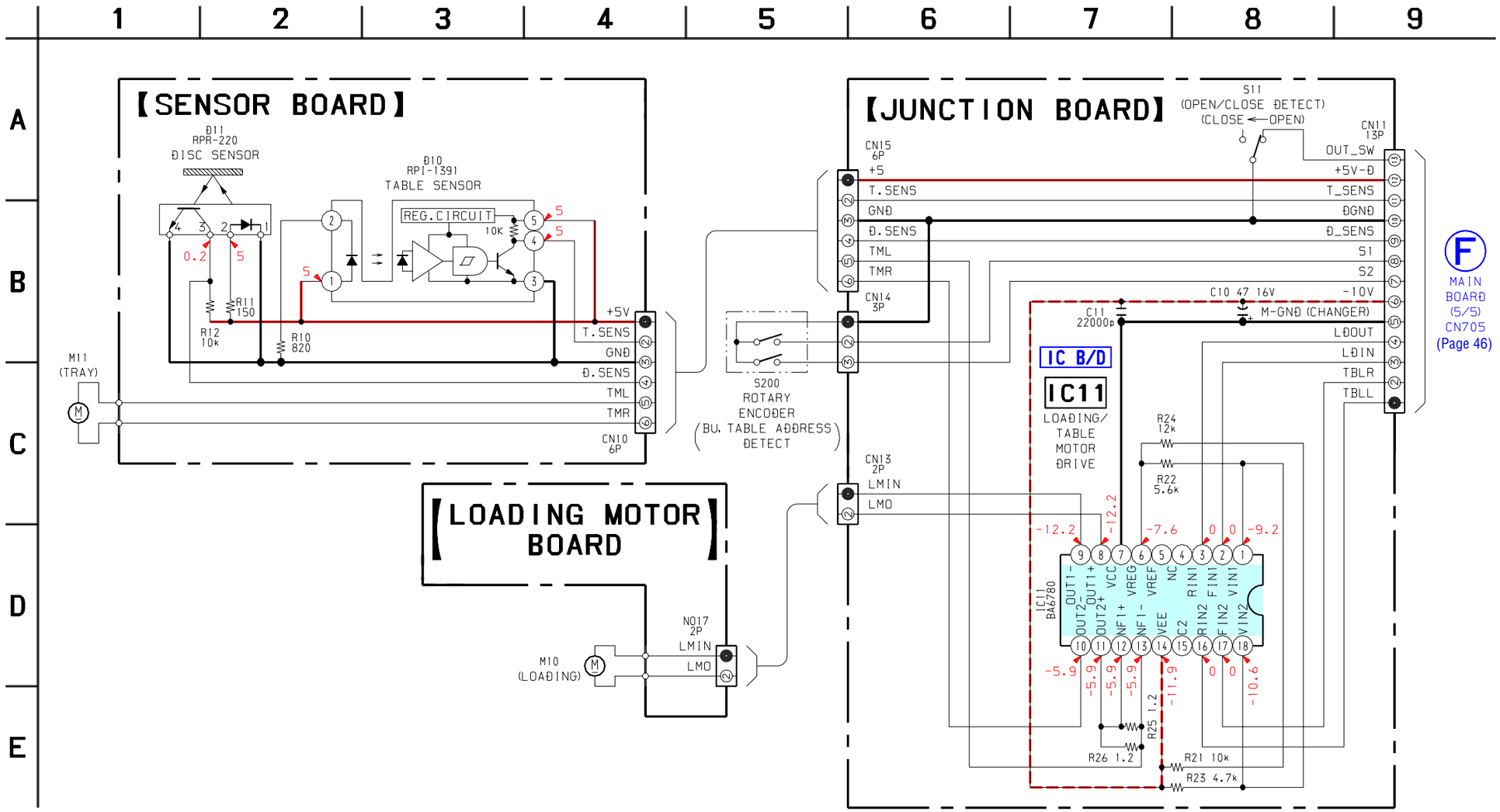


The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

6-9. PRINTED WIRING BOARDS – MOTOR/SENSOR Section – • See page 35 for Circuit Boards Location.



6-10. SCHEMATIC DIAGRAM – MOTOR/SENSOR Section – • See page 59 for IC Block Diagram.

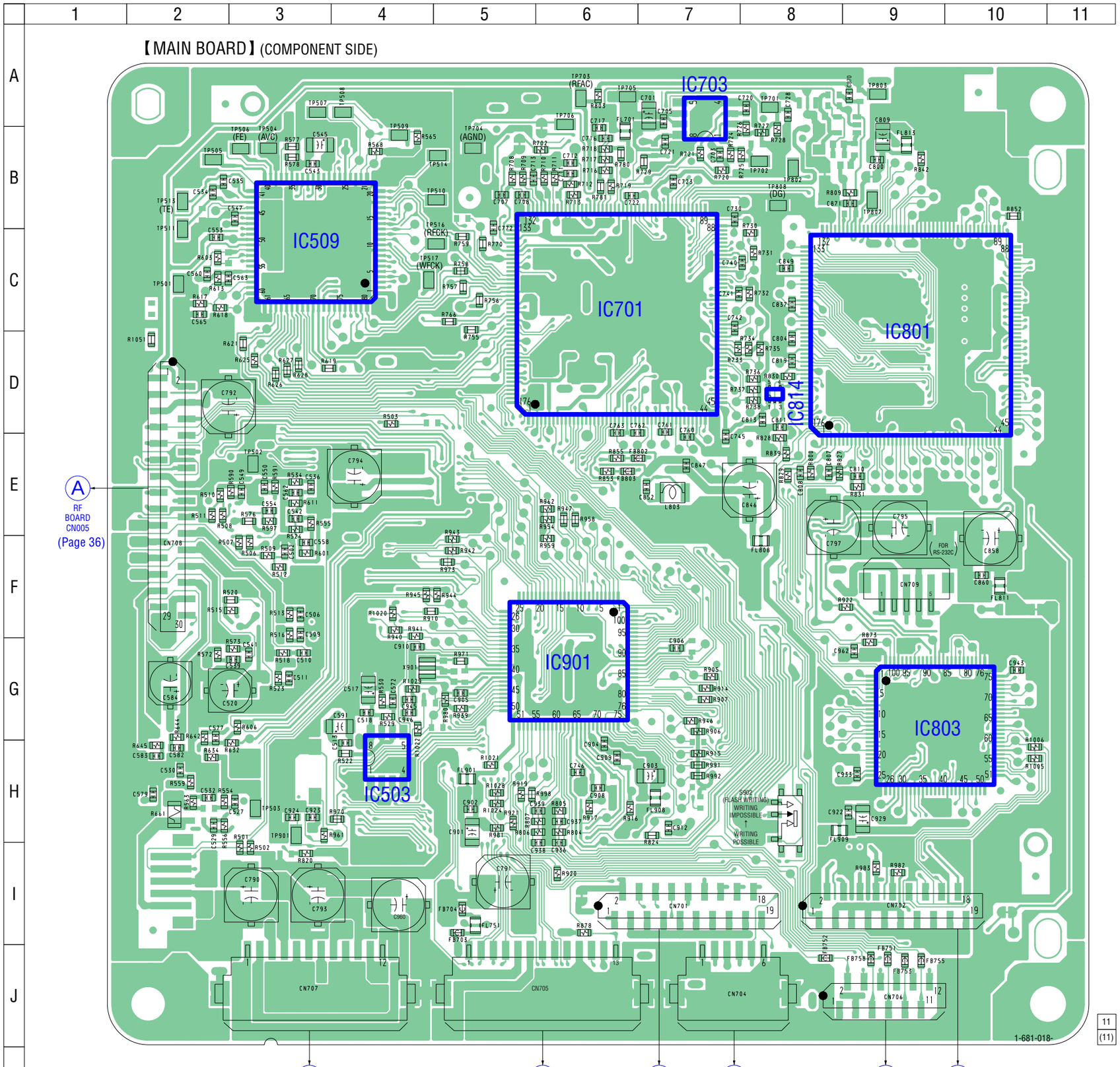


6-11. PRINTED WIRING BOARD – MAIN Board (Component Side) –

• See page 35 for Circuit Boards Location.

• **Semiconductor Location**

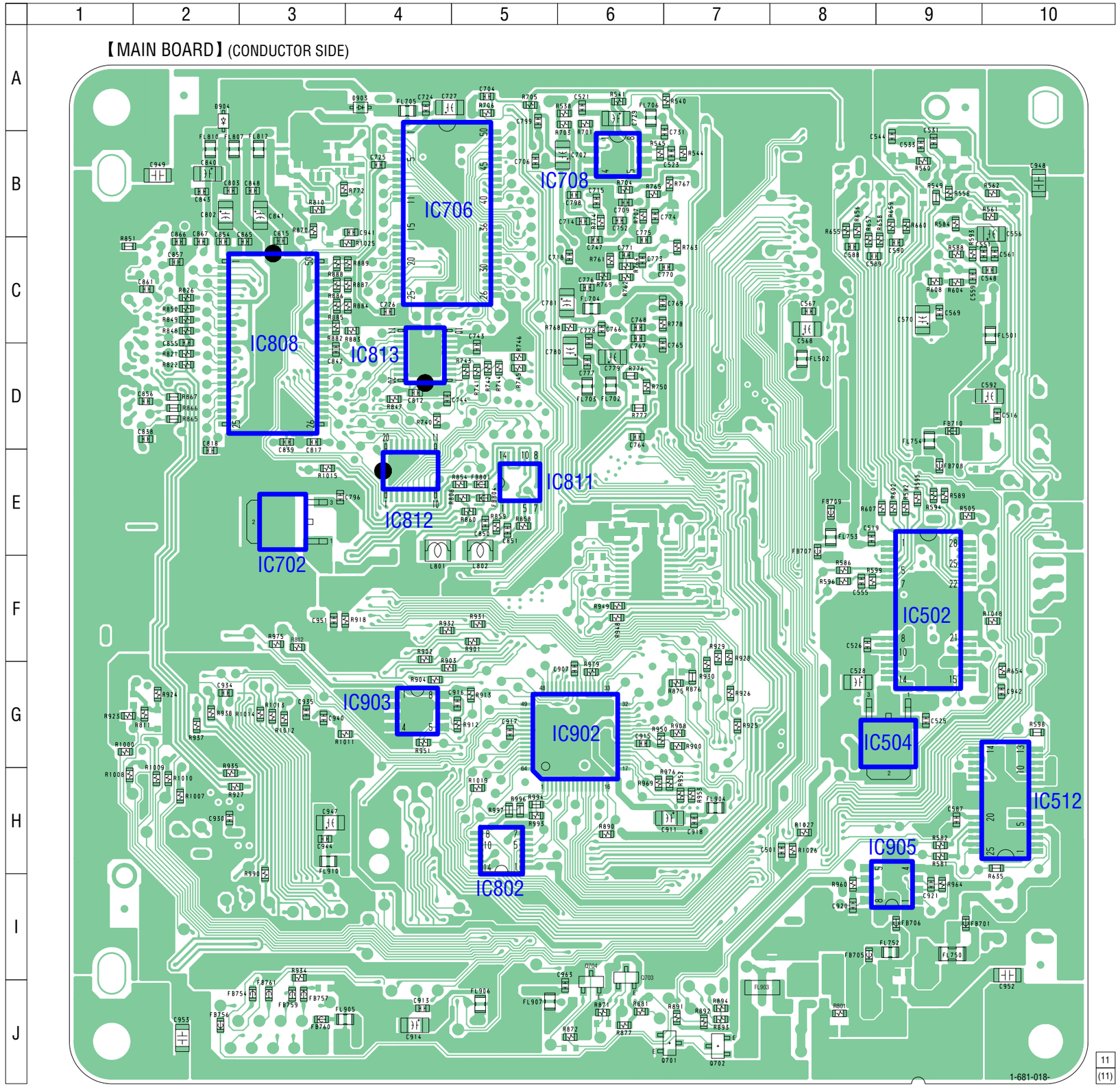
Ref. No.	Location
IC503	H-4
IC509	C-3
IC701	C-6
IC703	A-7
IC801	C-9
IC803	G-9
IC814	D-8
IC901	G-6



6-12. PRINTED WIRING BOARD – MAIN Board (Conductor Side) –

• See page 35 for Circuit Boards Location.

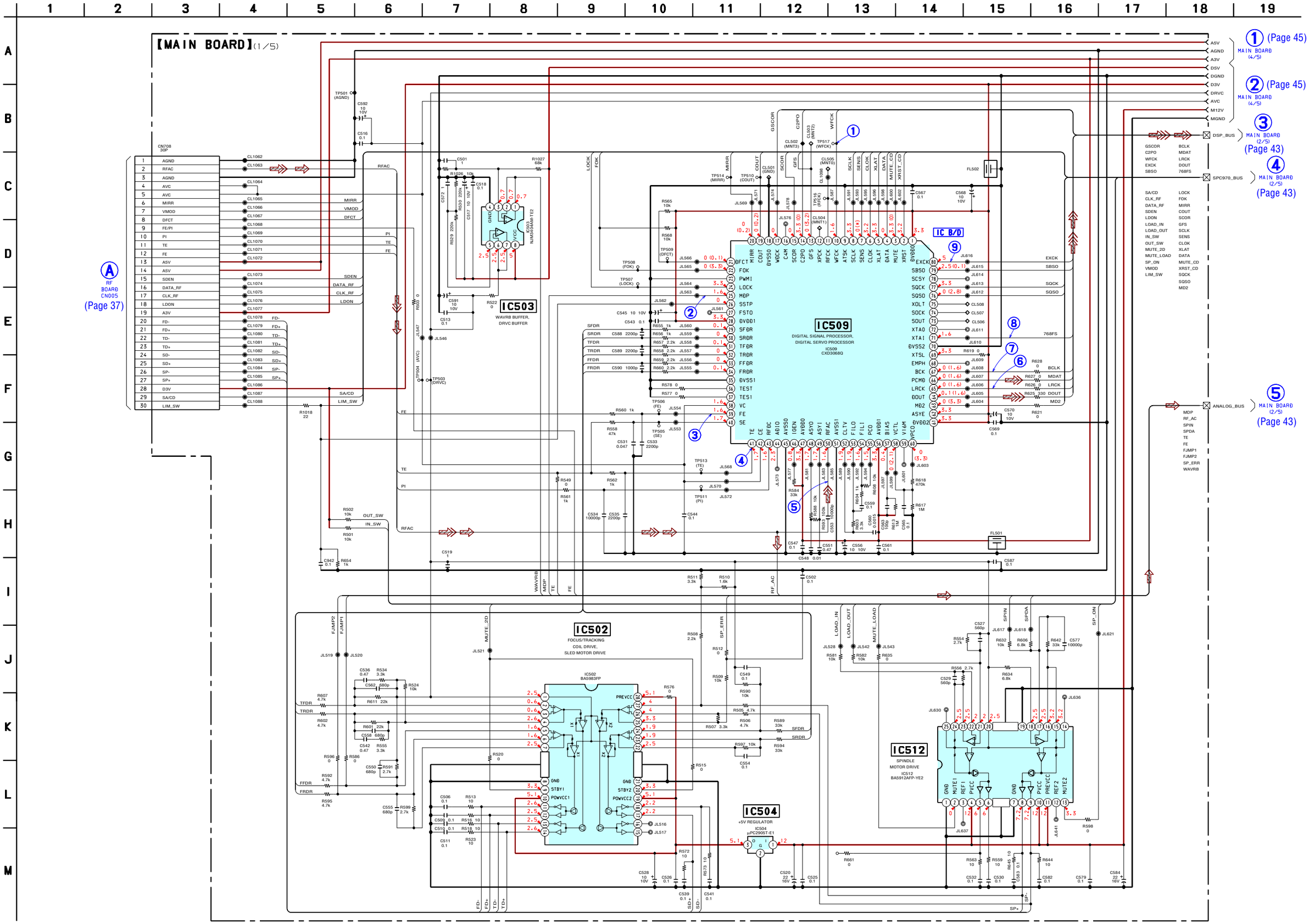
【MAIN BOARD】(CONDUCTOR SIDE)



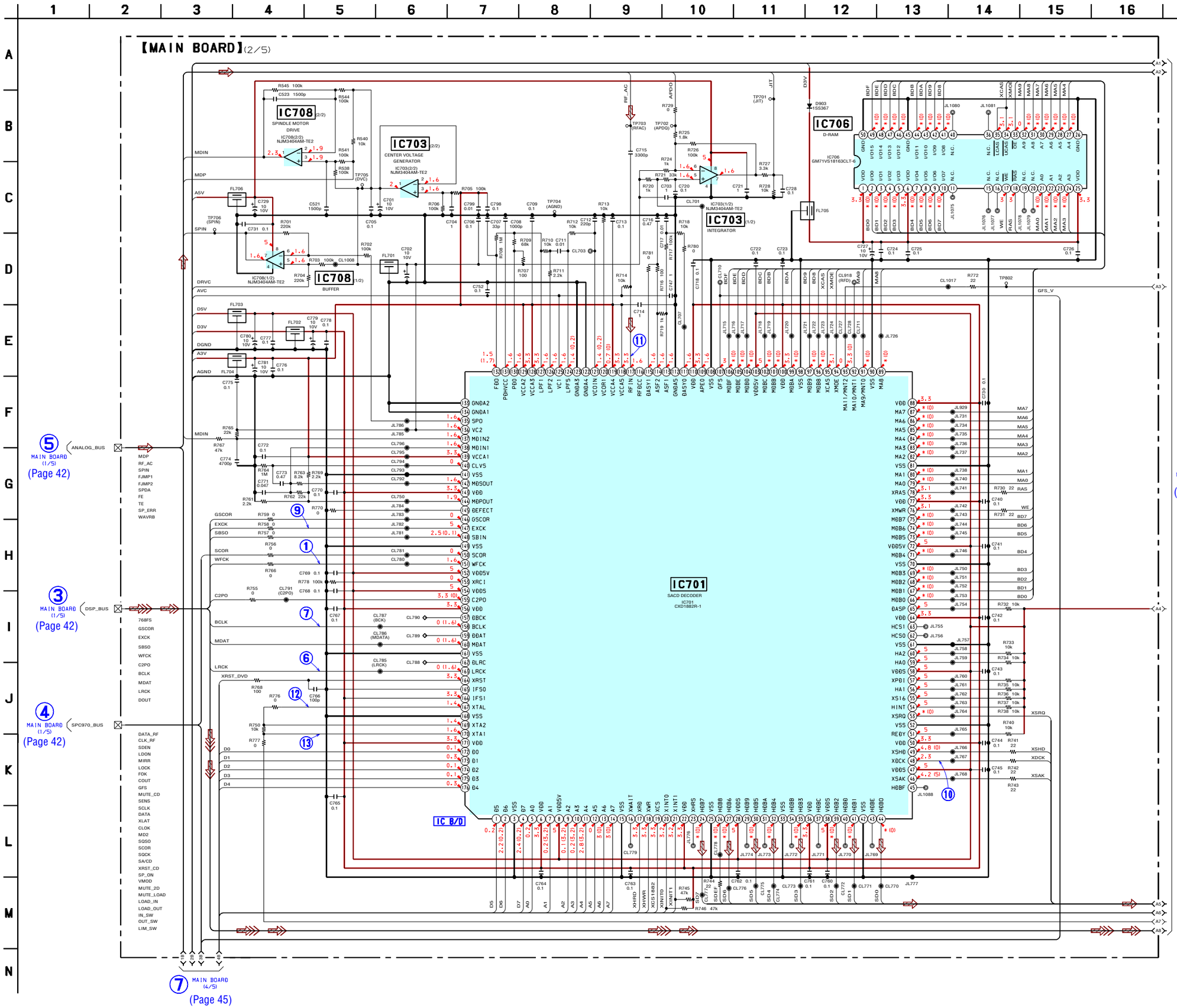
- **Semiconductor Location**

Ref. No.	Location
D903	A-4
D904	A-2
IC502	F-9
IC504	G-9
IC512	H-10
IC702	E-3
IC706	B-4
IC708	B-6
IC802	H-5
IC808	C-3
IC811	E-5
IC812	E-4
IC813	D-4
IC902	G-6
IC903	G-4
IC905	I-9
Q701	J-7
Q702	J-7
Q703	J-6
Q704	J-6

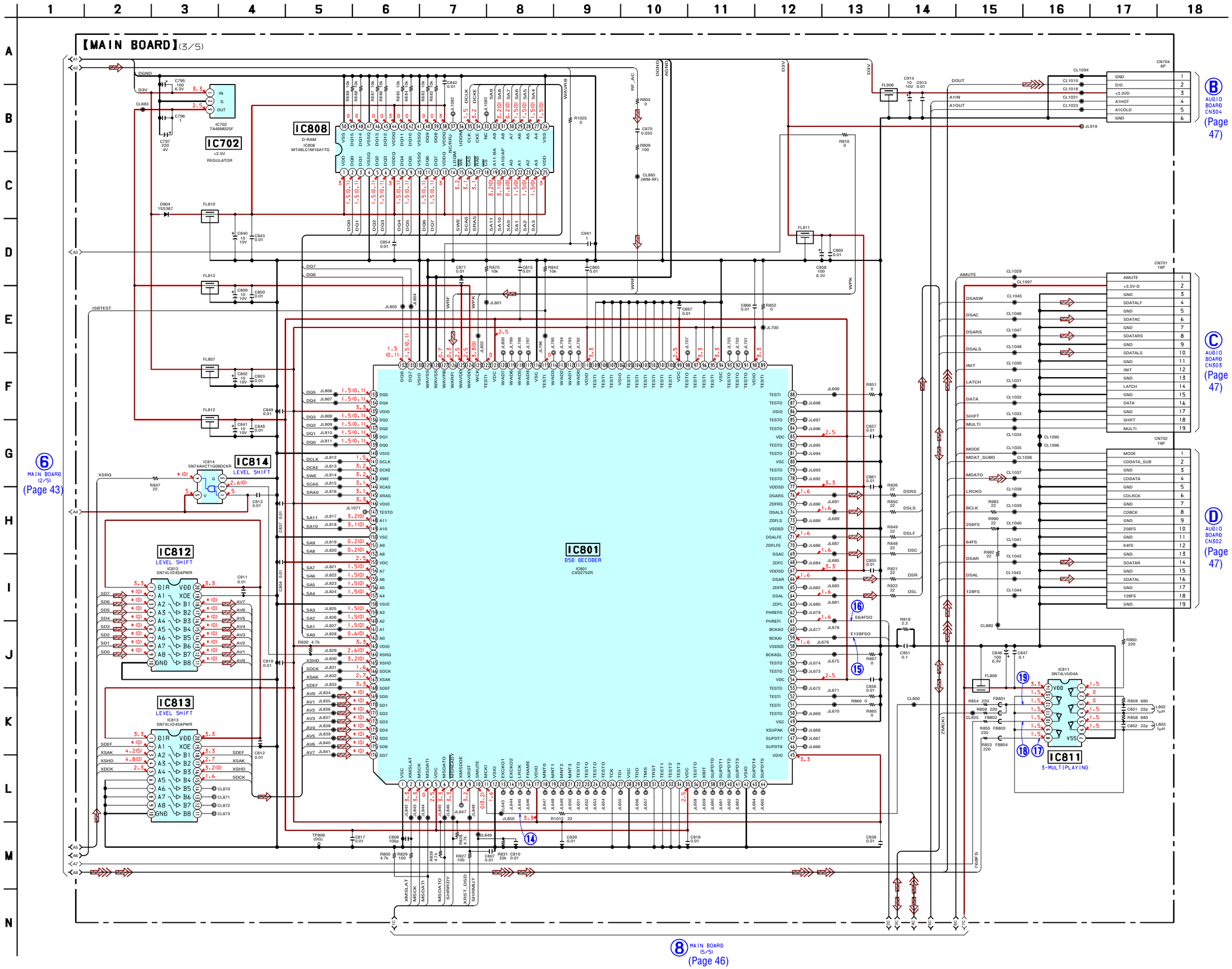
6-13. SCHEMATIC DIAGRAM – MAIN Board (1/5) – • See page 55 for Waveforms. • See page 59 for IC Block Diagram.



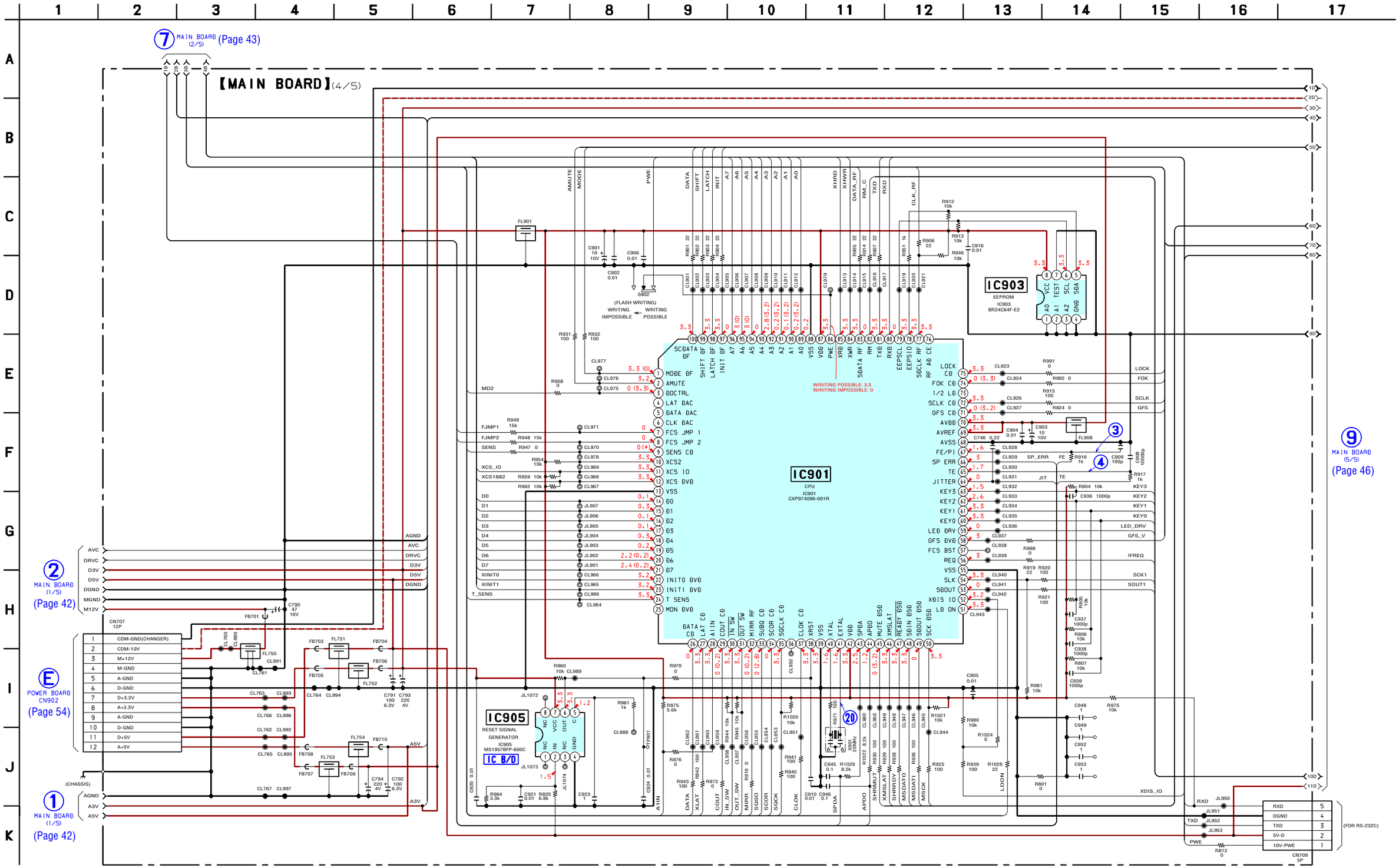
6-14. SCHEMATIC DIAGRAM – MAIN Board (2/5) – • See page 55 for Waveforms. • See page 59 for IC Block Diagram.



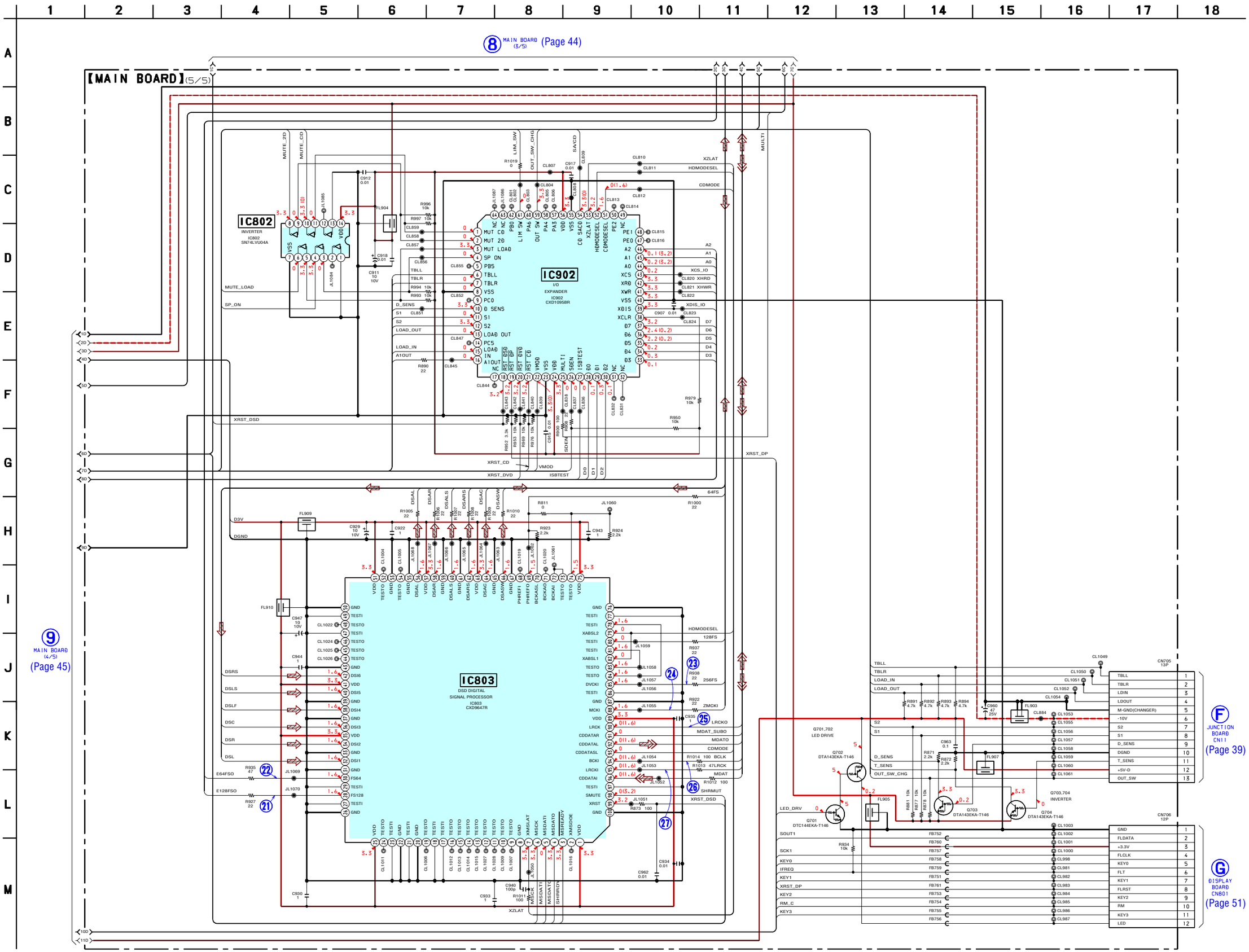
6-15. SCHEMATIC DIAGRAM – MAIN Board (3/5) – • See page 55 for Waveforms.



6-16. SCHEMATIC DIAGRAM – MAIN Board (4/5) – • See page 55 for Waveforms. • See page 59 for IC Block Diagram.



6-17. SCHEMATIC DIAGRAM – MAIN Board (5/5) – • See page 55 for Waveforms.



6-18. SCHEMATIC DIAGRAM – AUDIO/HEADPHONE Boards – • See page 55 for Waveforms. • See page 59 for IC Block Diagram.

【HEADPHONE BOARD】

【AUDIO BOARD】

IC304 CLOCK BUFFER

IC310 +3.3V REGULATOR

IC301 DIGITAL FILTER, D/A CONVERTER

IC302 DIGITAL FILTER, D/A CONVERTER

IC303 DIGITAL FILTER, D/A CONVERTER

IC305 ANALOG LOW-PASS FILTER

IC306 ANALOG LOW-PASS FILTER

IC307 ANALOG LOW-PASS FILTER

IC308 HEADPHONE AMP

IC309 OPTICAL TRANSCEIVER

Q303 DTA143TKA -T146 MUTING CONTROL SWITCH

Q301 DTA143TKA -T146 MUTING CONTROL SWITCH

Q401 2SC3624A MUTING

Q402 2SC3624A MUTING

Q501 2SC3624A MUTING

Q502 2SC3624A MUTING

Q421 2SC3624A MUTING

Q422 2SC3624A MUTING

Q521 2SC3624A MUTING

Q522 2SC3624A MUTING

Q441 2SC3624A MUTING

Q442 2SC3624A MUTING

Q541 2SC3624A MUTING

Q542 2SC3624A MUTING

Q302 2SC1623-T1 -L5L6 WAVE SHAPER

Q381 2SC2412K SIRCS BUFFER

Q503 2SC3624A MUTING

CN302 19P

CN303 19P

CN301 9P

CN881 3P

CN305 3P

CN304 6P

J881 PHONES

RV881 1k/1k PHONES LEVEL

J301 ANALOG 2CH OUT

J302 6P ANALOG 5.1CH OUT

J303 1P DIGITAL(CD) OUT COAXIAL

J381 CONTROL A1 II

(CHASSIS)

D301 1SS367-T3SONY

D302 1SS367-T3SONY

D303 1SS367-T3SONY

D304 1SS367-T3SONY

D305 1SS367-T3SONY

D306 1SS367-T3SONY

D307 1SS367-T3SONY

IC B/D

X301 11.2896MHz

IC308(2/2) NJM4580E-D

IC308(1/2) NJM4580E-D

IC305(1/2) NJM2114M-TE2

IC305(2/2) NJM2114M-TE2

IC306(1/2) NJM2114M-TE2

IC306(2/2) NJM2114M-TE2

IC307(1/2) NJM2114M-TE2

IC307(2/2) NJM2114M-TE2

Ⓓ MAIN BOARD (3/5) CN702 (Page 44)

Ⓒ MAIN BOARD (3/5) CN701 (Page 44)

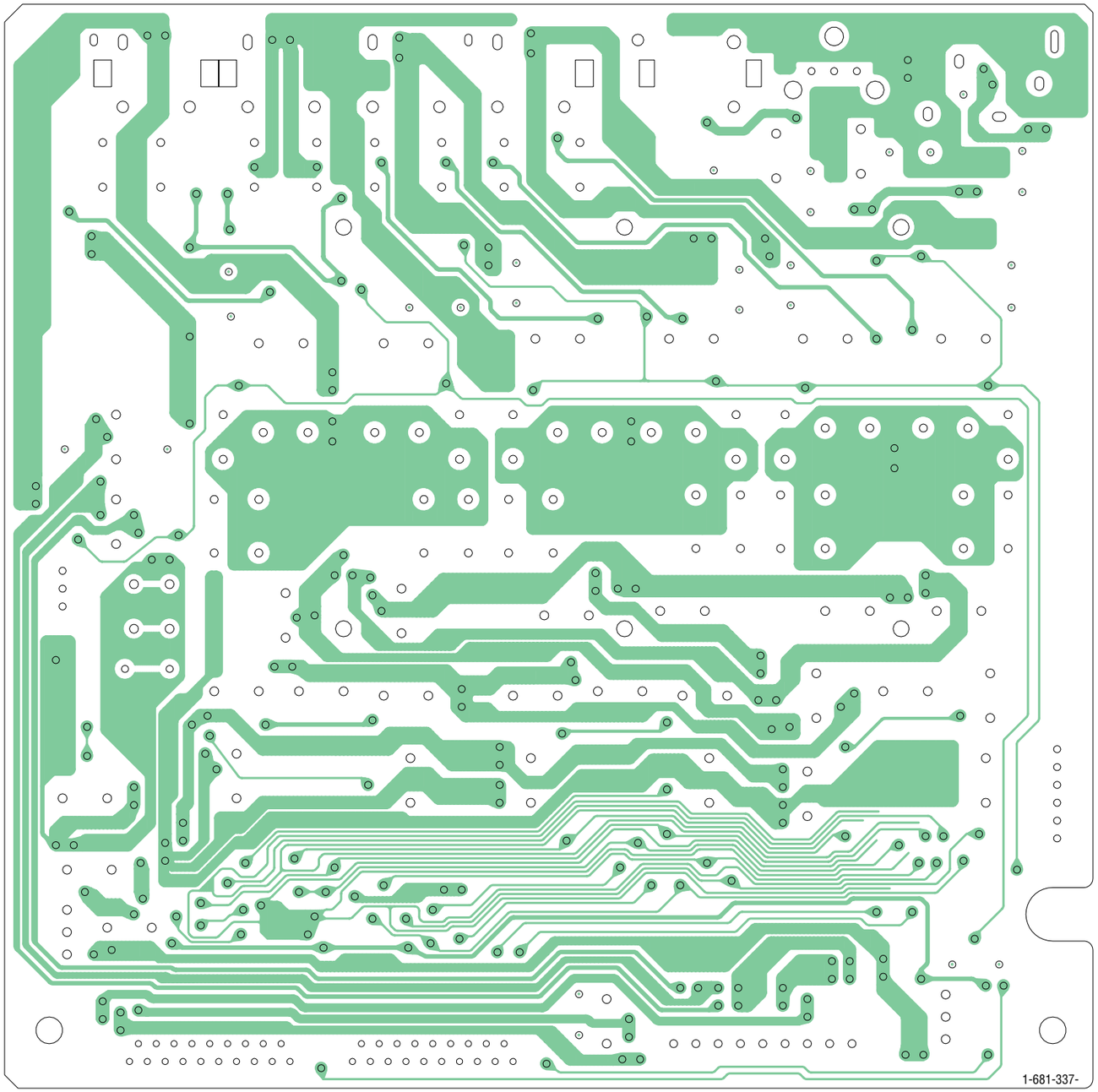
Ⓑ MAIN BOARD (3/5) CN704 (Page 44)

Ⓗ POWER BOARD CN903 (Page 54)

6-19. PRINTED WIRING BOARD – AUDIO Board (Component Side) –

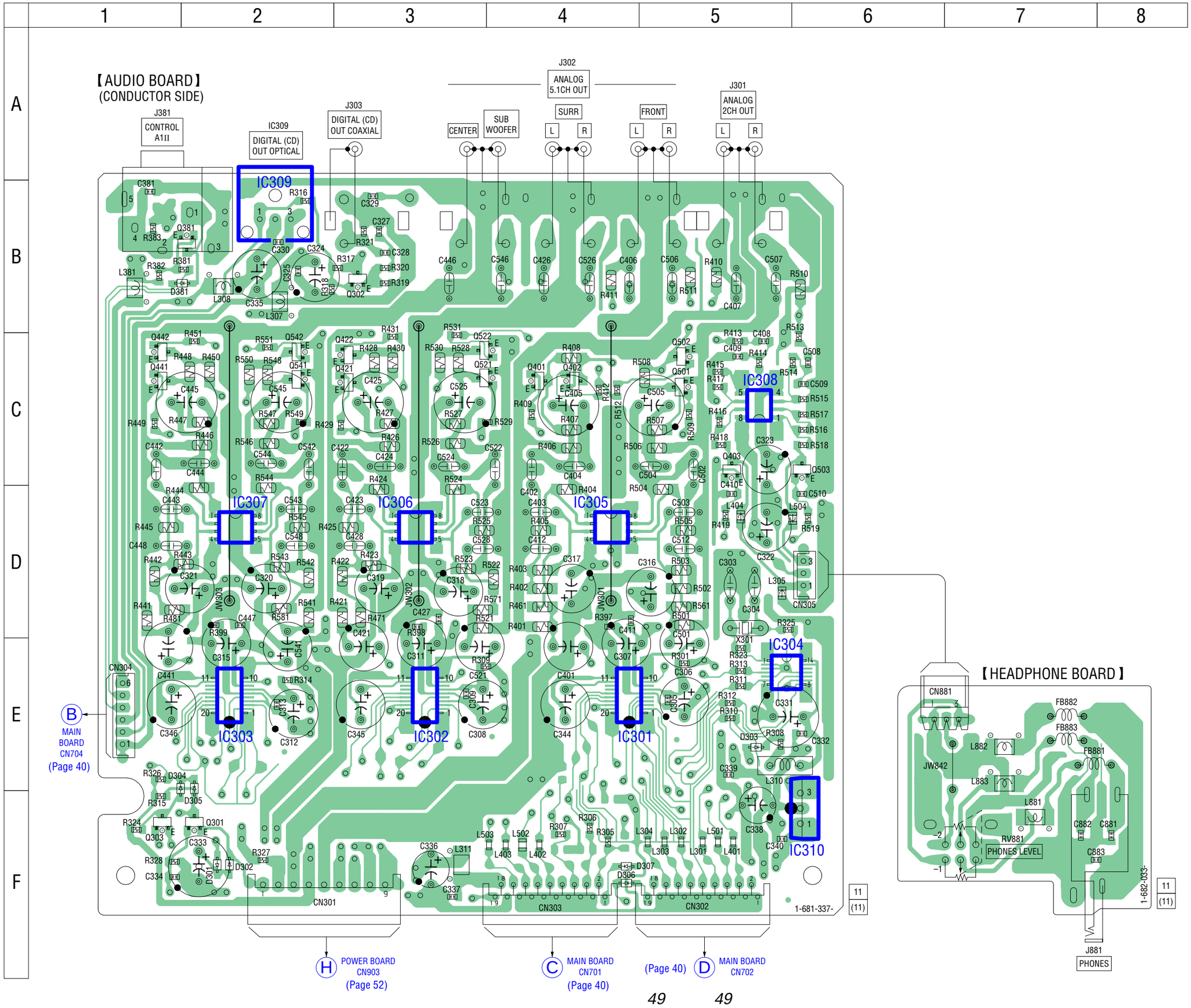
• See page 35 for Circuit Boards Location.

【AUDIO BOARD】(COMPONENT SIDE)



6-20. PRINTED WIRING BOARDS – AUDIO (Conductor Side)/HEADPHONE Boards –

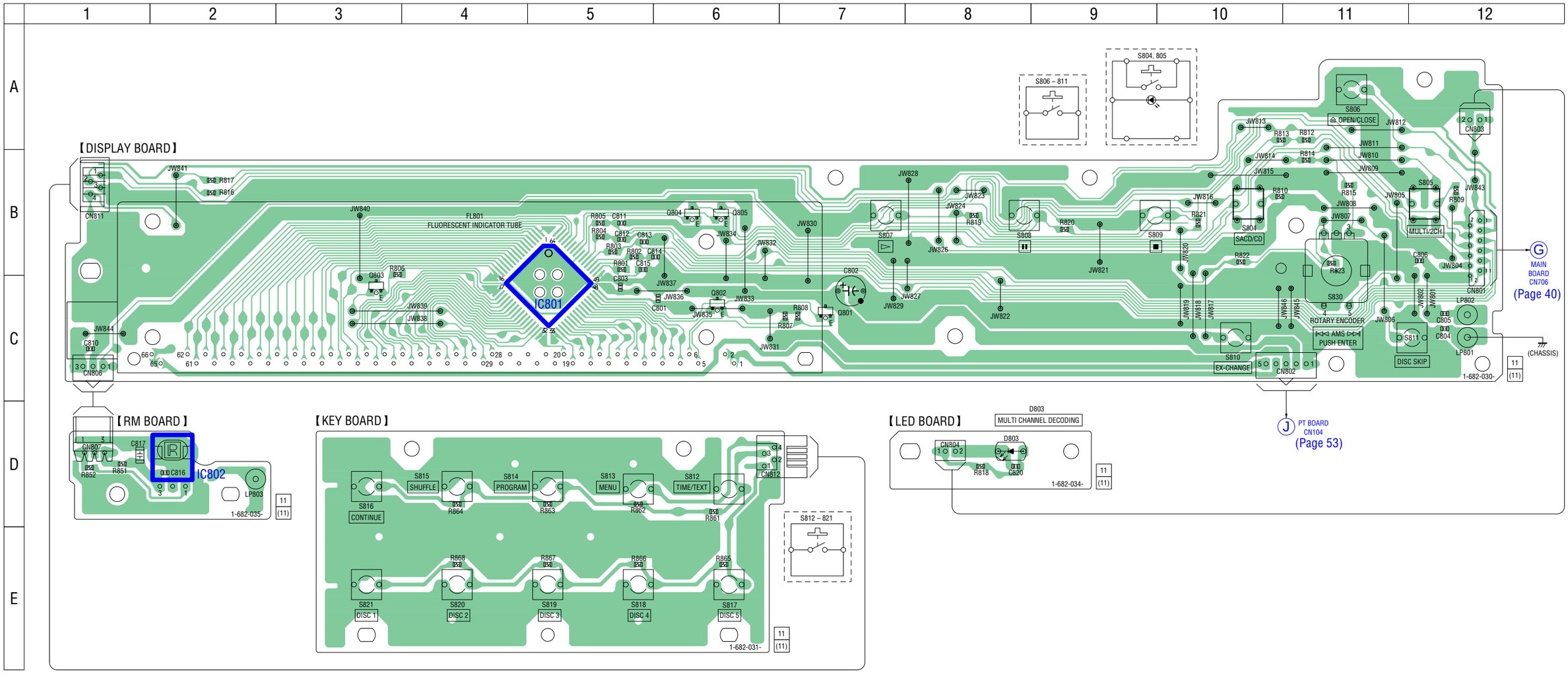
• See page 35 for Circuit Boards Location.



- **Semiconductor Location**

Ref. No.	Location
D301	F-2
D302	F-2
D303	E-5
D304	E-1
D305	E-2
D306	F-4
D307	F-4
D381	B-2
IC301	E-4
IC302	E-3
IC303	E-2
IC304	E-5
IC305	D-4
IC306	D-3
IC307	D-2
IC308	C-5
IC309	B-2
IC310	F-6
Q301	F-2
Q302	B-3
Q303	F-1
Q381	B-2
Q401	C-4
Q402	C-4
Q403	C-5
Q421	C-3
Q422	C-3
Q441	C-1
Q442	C-1
Q501	C-5
Q502	C-5
Q503	C-6
Q521	C-3
Q522	C-3
Q541	C-2
Q542	C-2

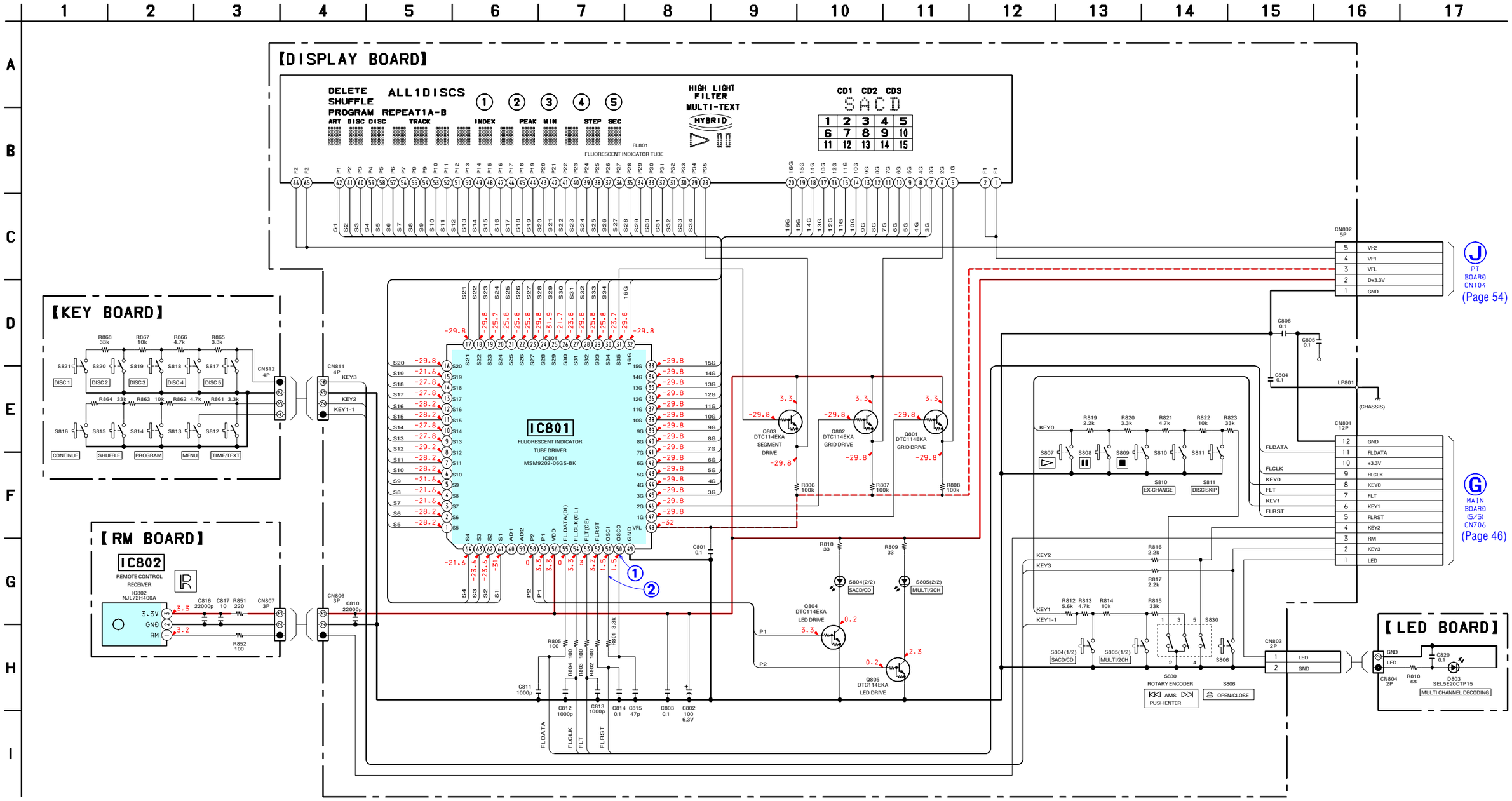
6-21. PRINTED WIRING BOARDS – DISPLAY/KEY/LED/RM Boards – • See page 35 for Circuit Boards Location.



- **Semiconductor Location**

Ref. No.	Location
D803	D-8
IC801	C-5
IC802	D-2
Q801	C-7
Q802	C-6
Q803	C-3
Q804	B-6
Q805	B-6

6-22. SCHEMATIC DIAGRAM – DISPLAY/KEY/LED/RM Boards – • See page 55 for Waveforms.

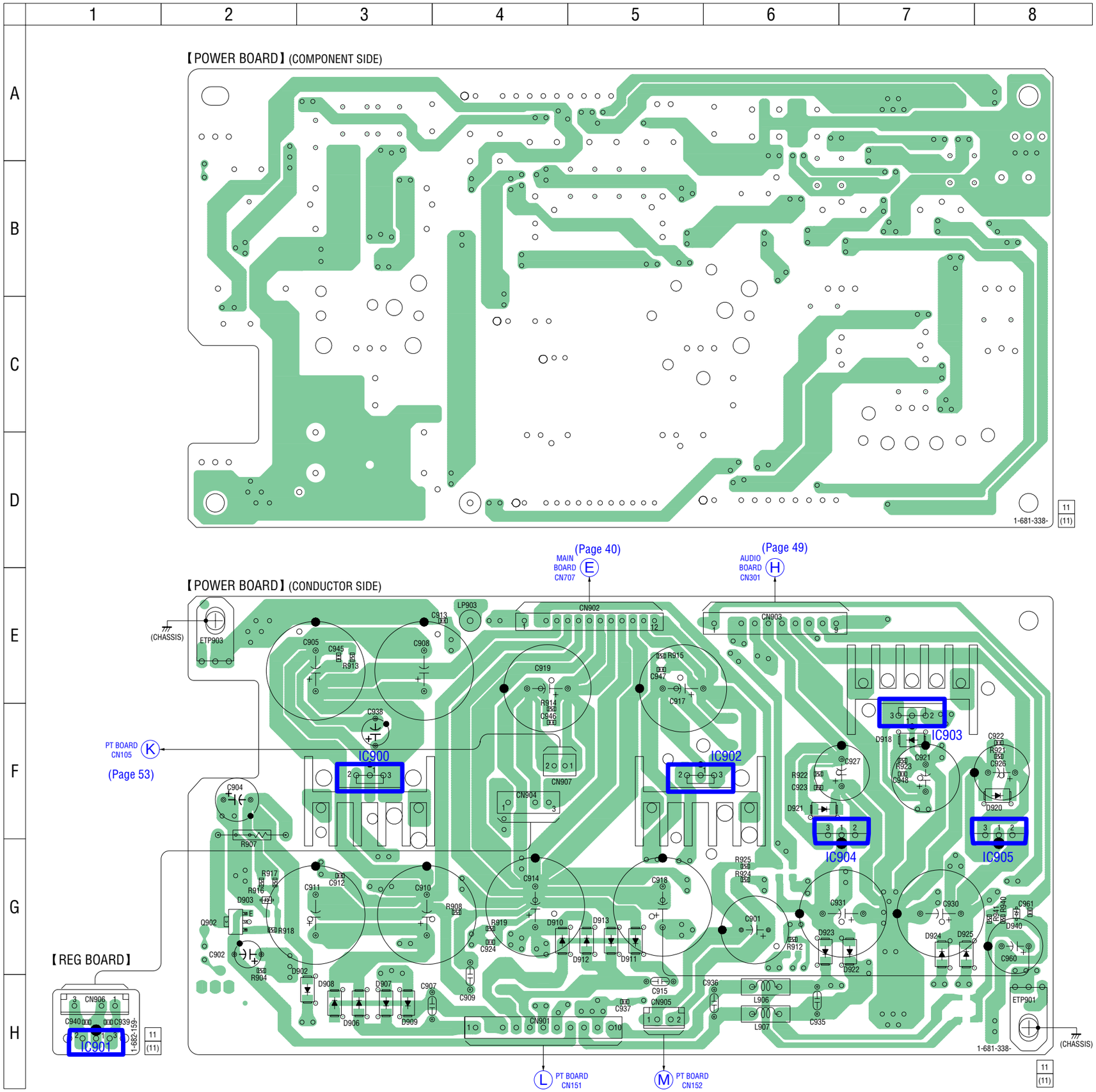


6-23. PRINTED WIRING BOARDS – POWER/REG Boards –

• See page 35 for Circuit Boards Location.

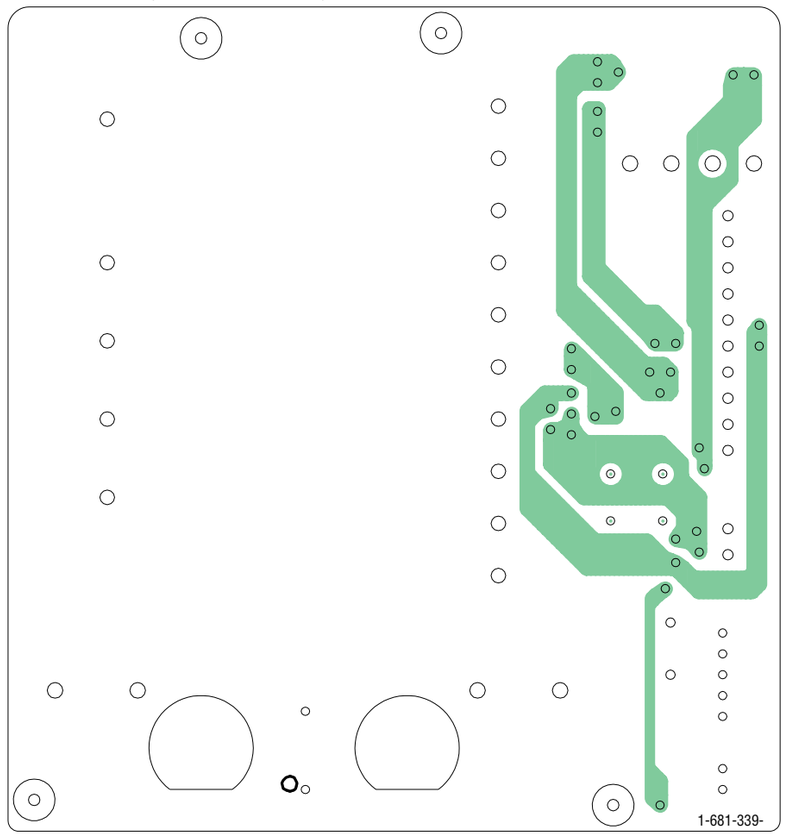
• **Semiconductor Location**

Ref. No.	Location
D902	H-3
D903	G-2
D906	H-3
D907	H-3
D908	H-3
D909	H-3
D910	G-4
D911	G-5
D912	G-5
D913	G-5
D918	F-7
D920	F-8
D921	F-6
D922	G-7
D923	G-6
D924	G-7
D925	G-7
D940	G-8
IC900	F-3
IC901	H-1
IC902	F-5
IC903	F-7
IC904	F-7
IC905	F-8
Q902	G-2

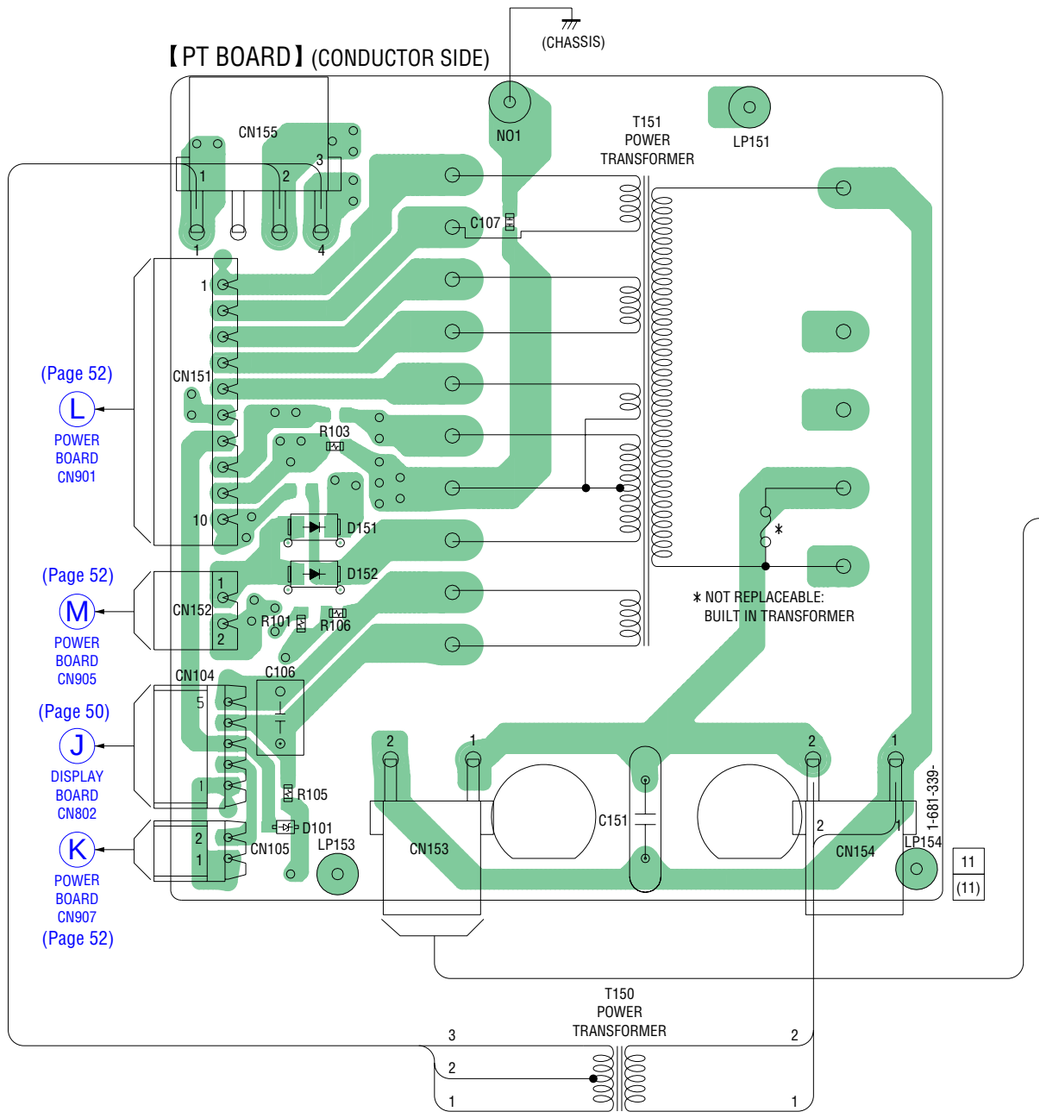


6-24. PRINTED WIRING BOARDS – POWER SW/PT Boards – **• See page 35 for Circuit Boards Location.**

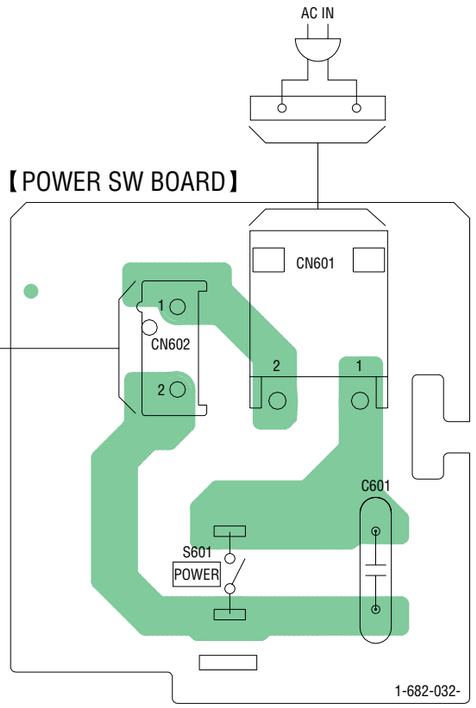
【PT BOARD】(COMPONENT SIDE)



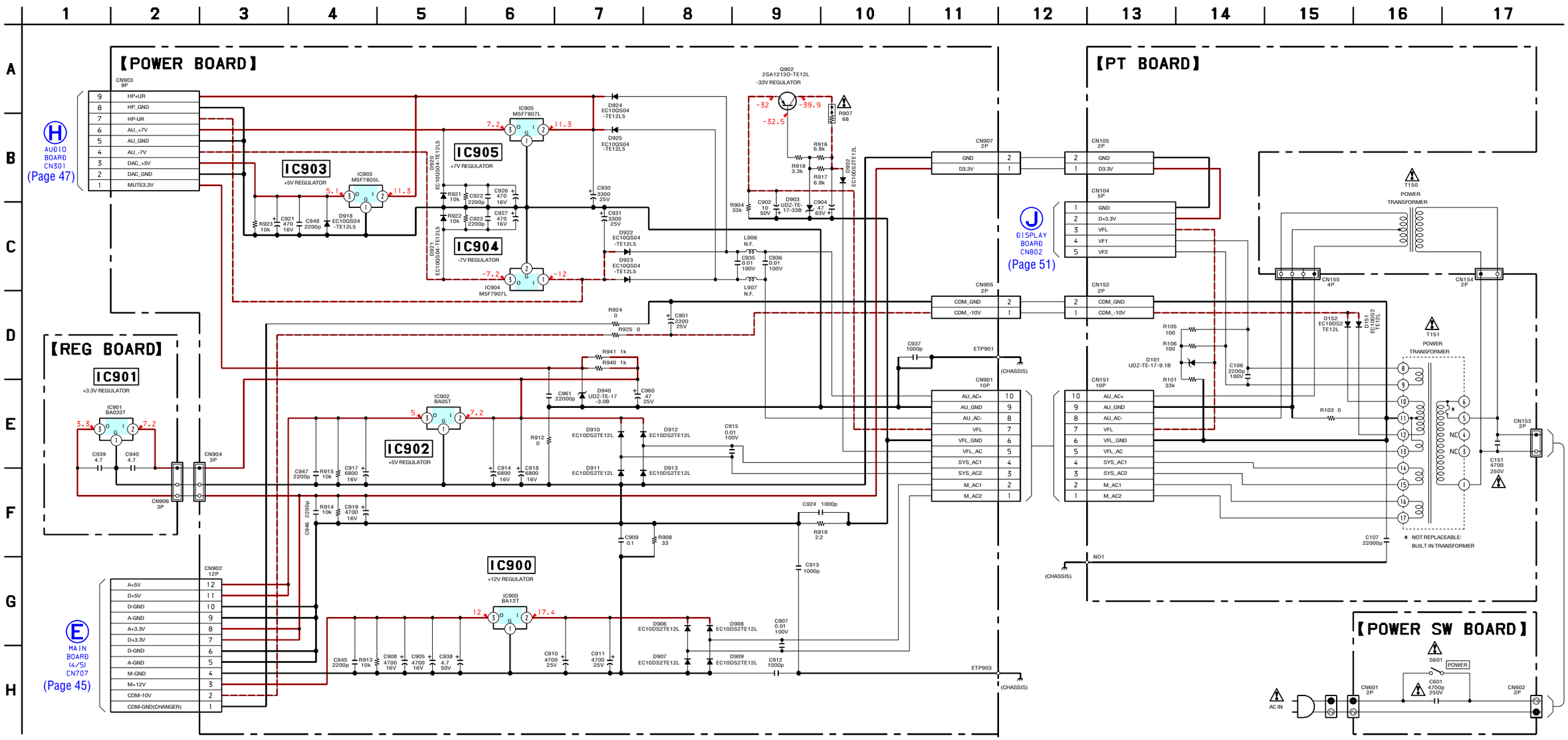
【PT BOARD】(CONDUCTOR SIDE)



【POWER SW BOARD】



6-25. SCHEMATIC DIAGRAM – POWER/POWER SW/PT/REG Boards –

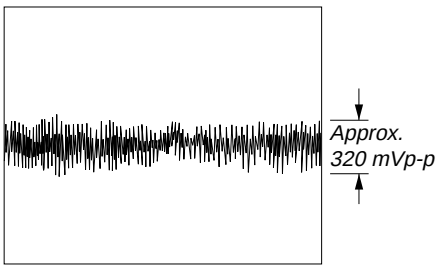


The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

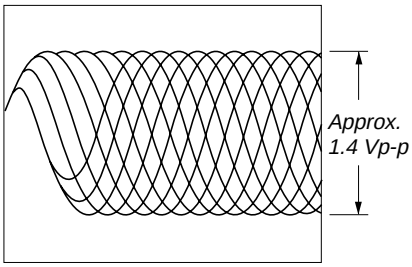
• **Waveforms**

– RF Board –

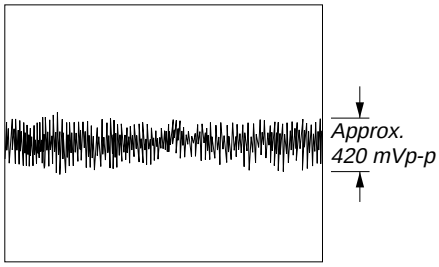
❶ IC001 ㊴ (TE) (SACD Play mode)



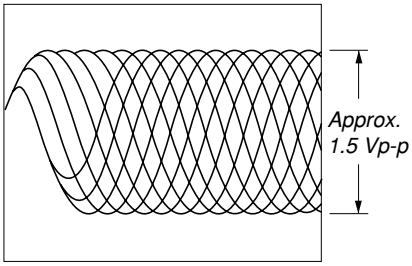
❸ IC001 ㊼ (RFAC) (SACD Play mode)



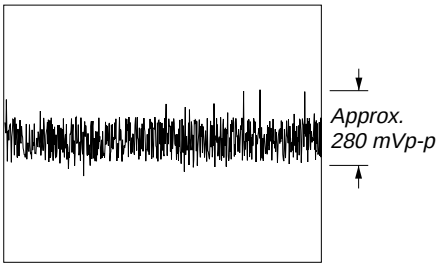
❶ IC001 ㊴ (TE) (CD Play mode)



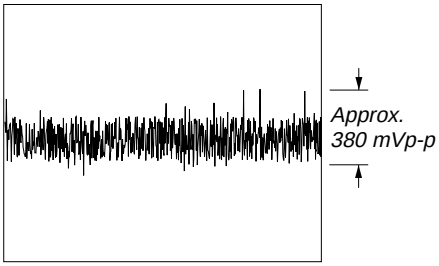
❸ IC001 ㊼ (RFAC) (CD Play mode)



❷ IC001 ㊵ (FE) (SACD Play mode)

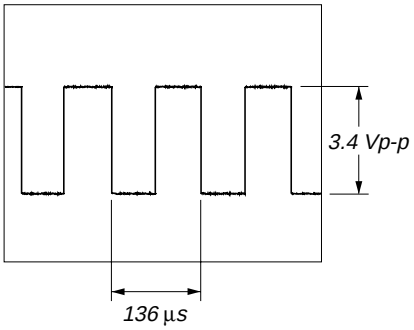


❷ IC001 ㊵ (FE) (CD Play mode)

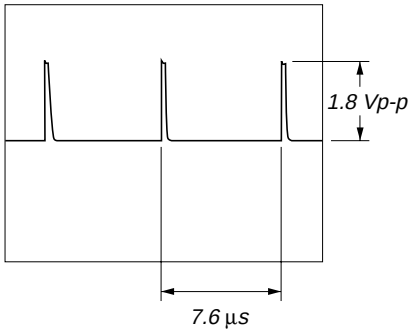


– MAIN Board –

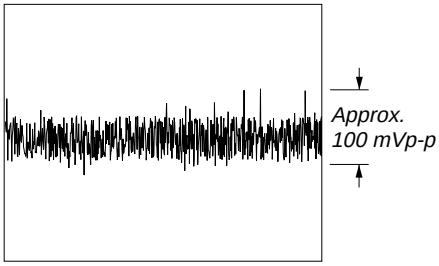
❶ IC509 ⑩ (WFCK), IC701 ⑮ (WFCK)



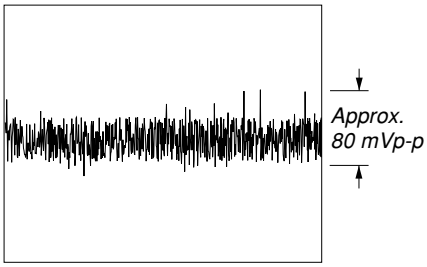
❷ IC509 ㉕ (MDP) (CD Play mode)



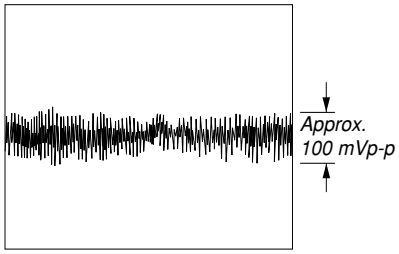
❸ IC509 ㊴ (FE), IC901 ㊼ (FE/PI) (SACD Play mode)



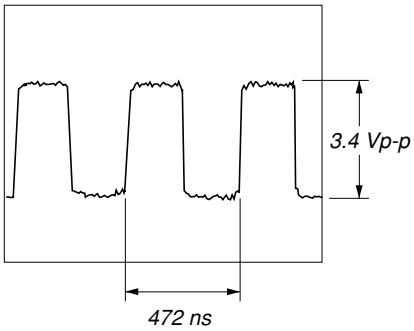
❸ IC509 ㊴ (FE), IC901 ㊼ (FE/PI) (CD Play mode)



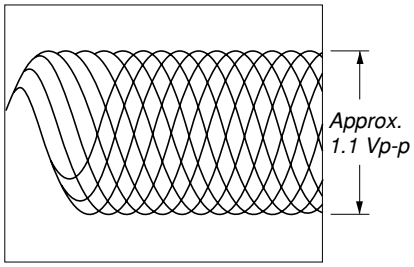
❹ IC509 ㊶ (TE), IC901 ㊺ (TE)
(SACD Play mode)



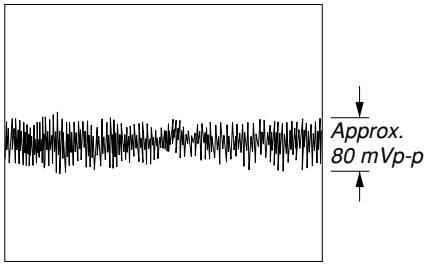
❼ IC509 ㊼ (BCK), IC701 ㊽ (BCLK)
(CD Play mode)



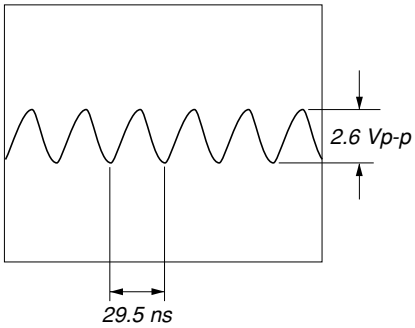
⓫ IC701 ㊼ (RFIN) (SACD Play mode)



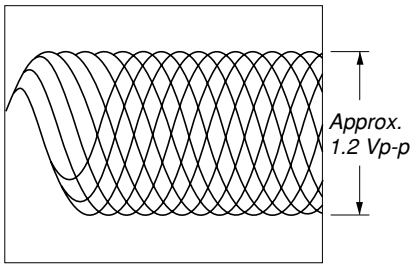
❹ IC509 ㊶ (TE), IC901 ㊺ (TE)
(CD Play mode)



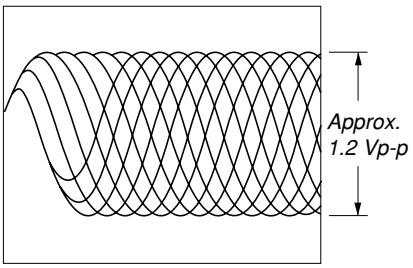
❽ IC509 ㊶ (XTAI)



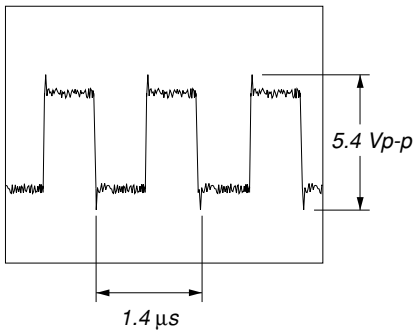
⓫ IC701 ㊼ (RFIN) (CD Play mode)



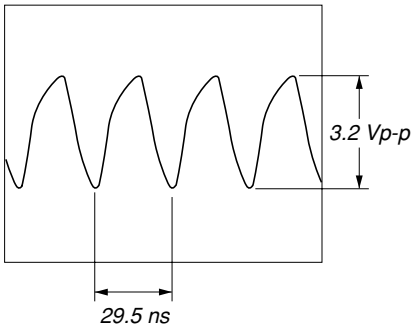
❺ IC509 ㊿ (RFAC) (SACD Play mode)



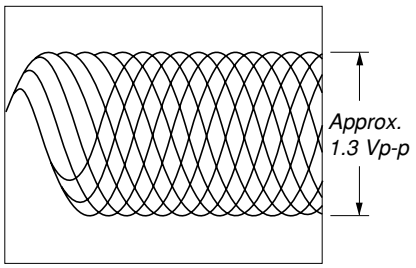
❾ IC509 ㊽ (EXCK), IC701 ㊹ (EXCK)



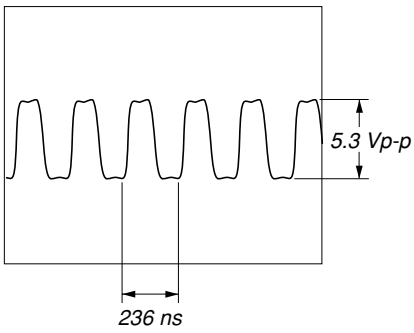
⓬ IC701 ㊼ (XTAL)



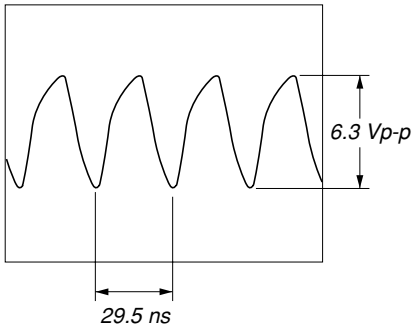
❺ IC509 ㊿ (RFAC) (CD Play mode)



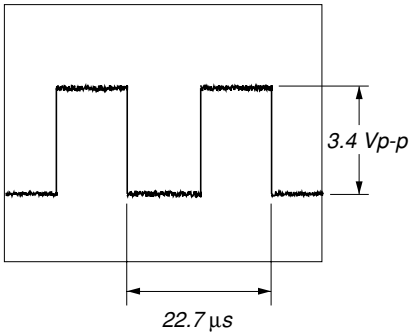
❿ IC701 ㊽ (XDCK)



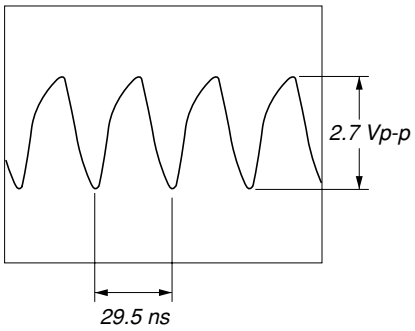
⓭ IC701 ㊿ (XTA1)



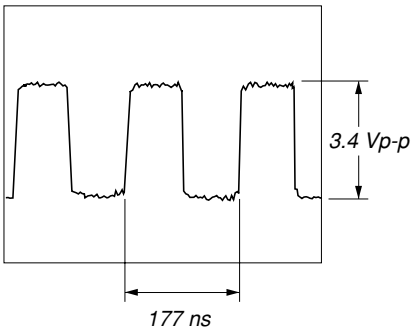
❻ IC509 ㊺ (LRCK), IC701 ㊸ (LRCK)
(CD Play mode)



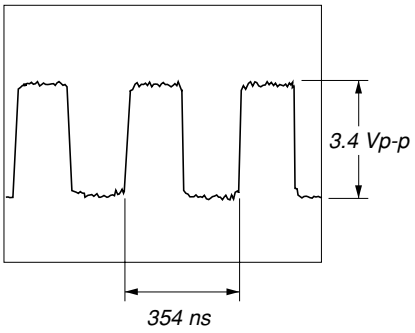
⓮ IC801 ⑪ (MCKI)



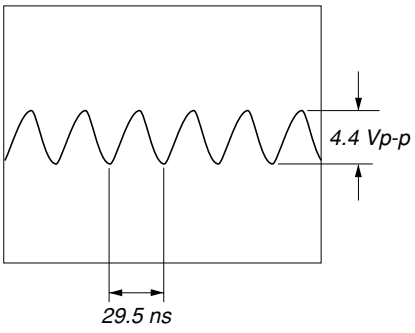
⑮ IC801 ⑲ (BCKAI)



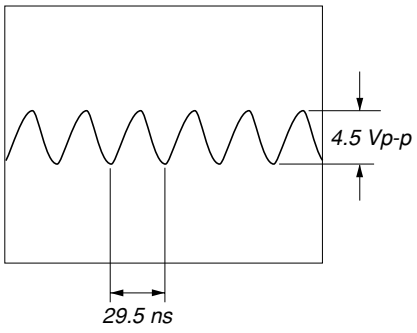
⑯ IC801 ⑥① (PHREFI)



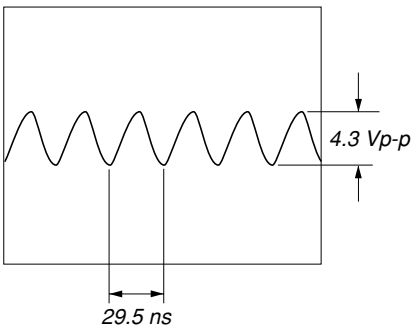
⑰ IC811 ⑧



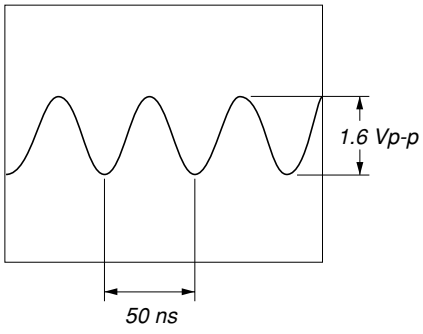
⑱ IC811 ⑩



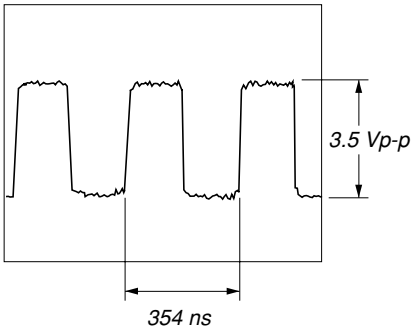
⑲ IC811 ⑫



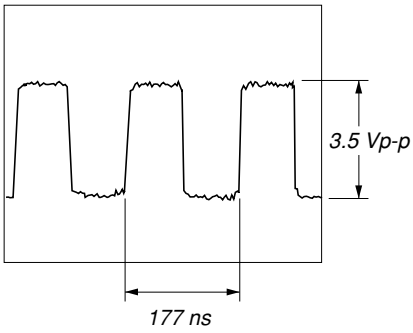
⑳ IC901 ④① (EXTAL)



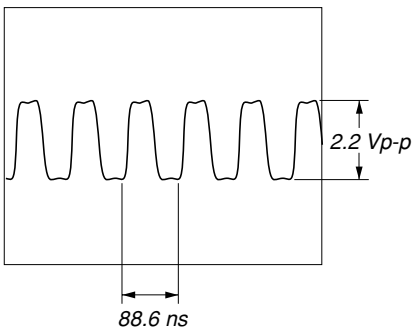
㉑ IC803 ㉘ (FS128)



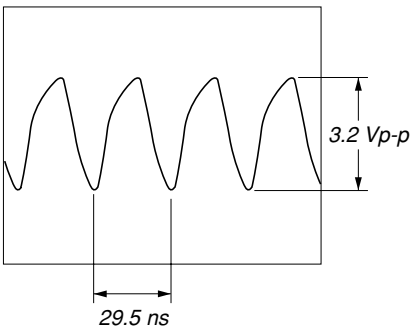
㉒ IC803 ㉚ (FS64)



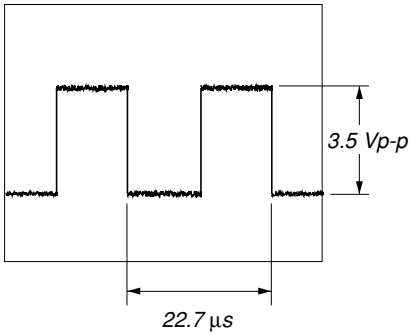
㉓ IC803 ⑧⑤ (DVCKI)



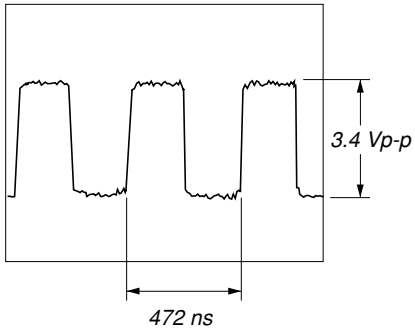
㉔ IC803 ⑧⑧ (MCKI)



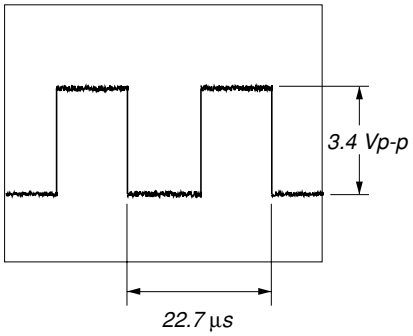
㉕ IC803 ⑨⓪ (LRCK) (CD Play mode)



㉖ IC803 ⑨④ (BCLK) (CD Play mode)

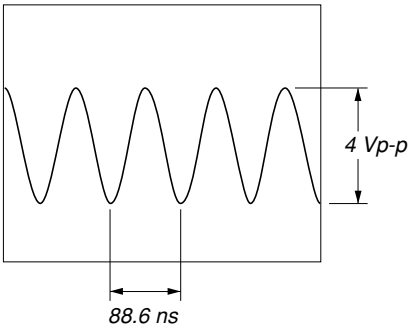


㉗ IC803 ⑨⑤ (LRCKI) (CD Play mode)

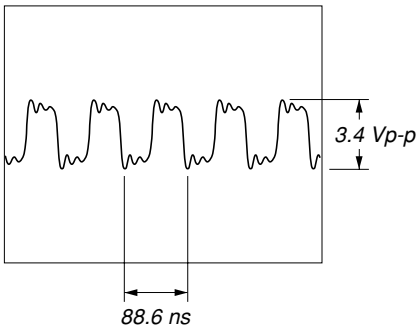


– AUDIO Board –

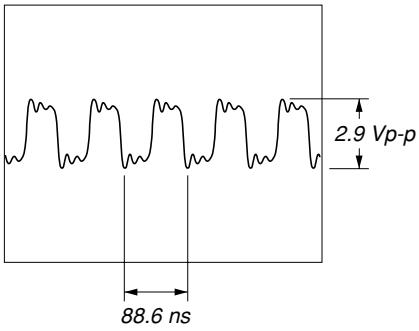
❶ IC304 ①



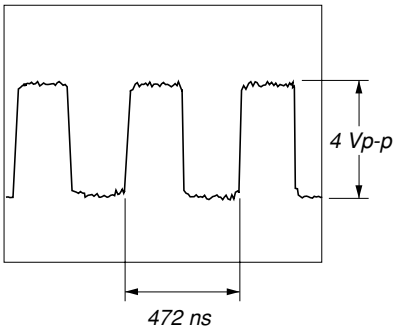
❷ IC304 ④, ⑥, ⑩



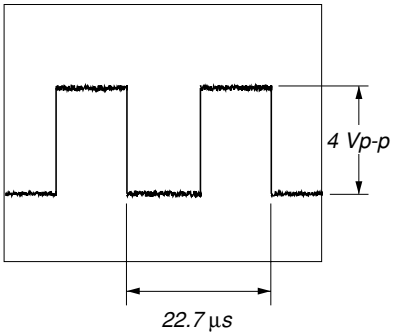
❸ IC304 ⑧



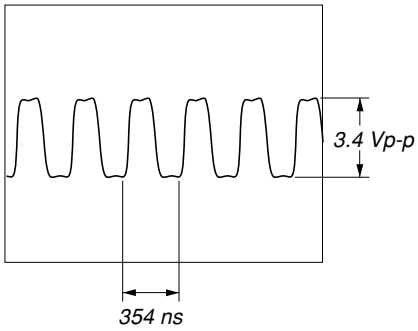
❹ IC301 – 303 ③ (PBCK)
(CD Play mode)



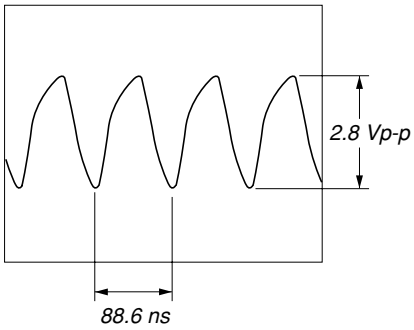
❺ IC301 – 303 ⑤ (PLRCK)
(CD Play mode)



❻ IC301 – 303 ⑳ (DBCK)

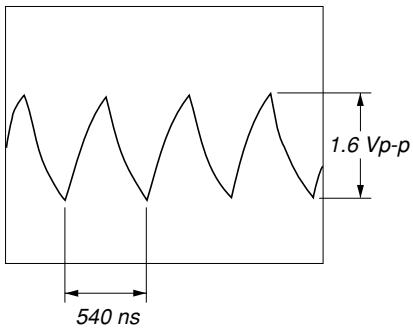


❼ IC301 – 303 ⑱ (PSCK), ⑲ (DSCK)

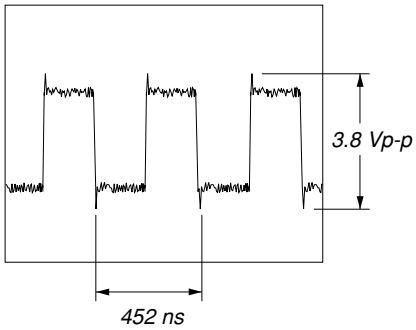


– DISPLAY Board –

❶ IC801 ㊿ (OSCO)

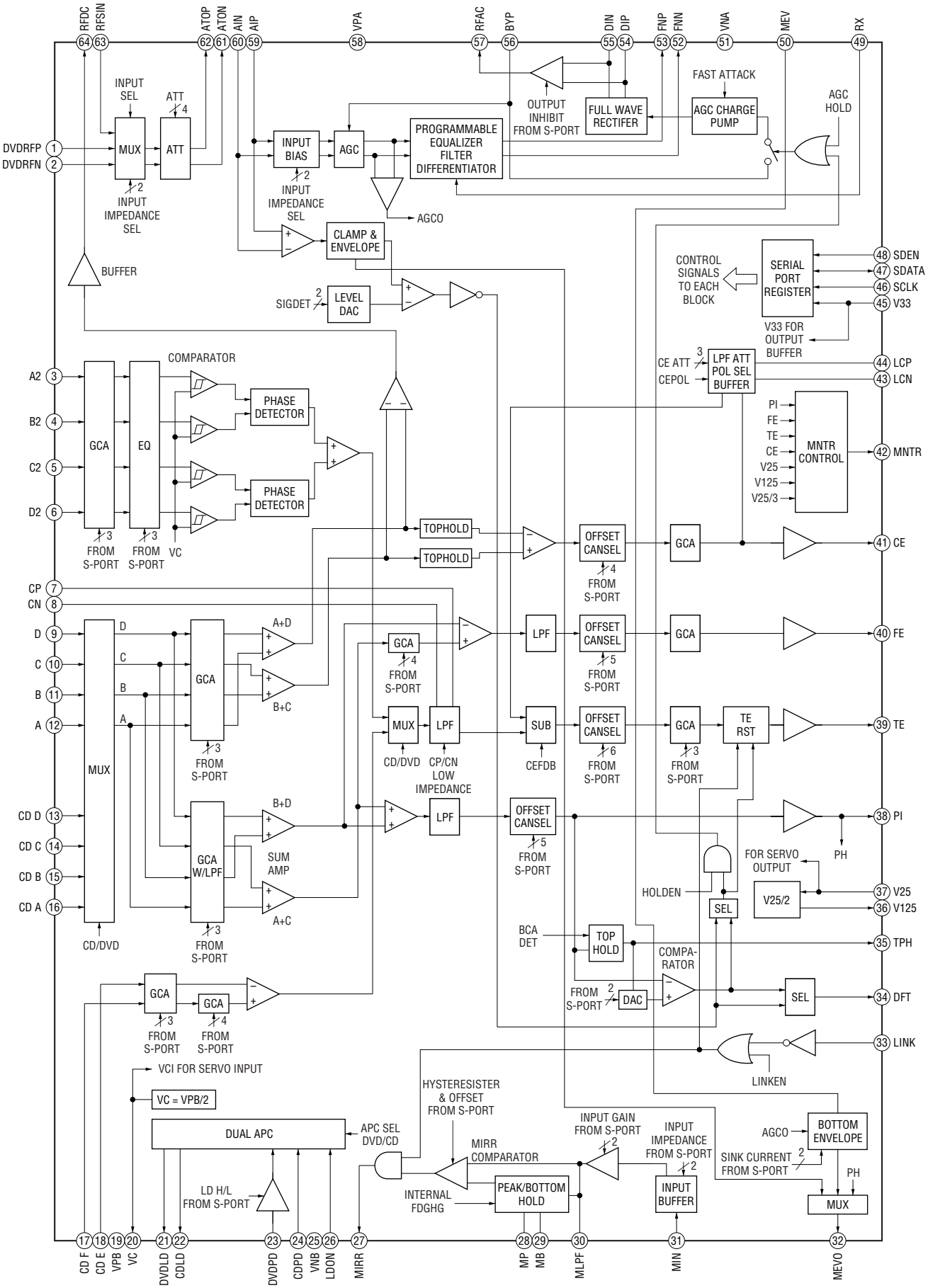


❷ IC801 ㊶ (OSCI)



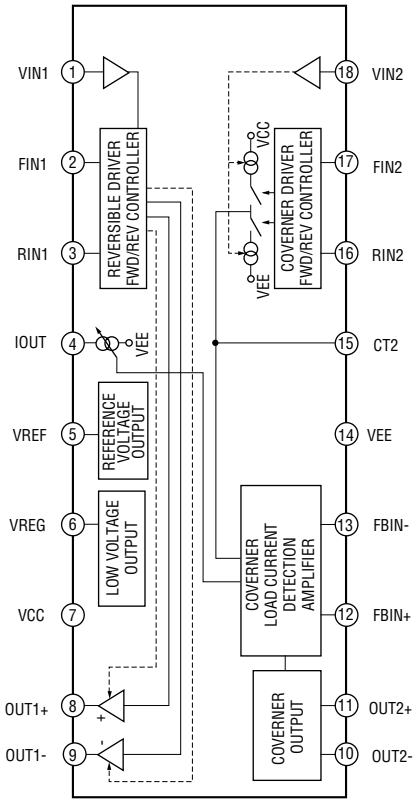
• **IC Block Diagrams**
– RF Board –

IC001 CXD1881R



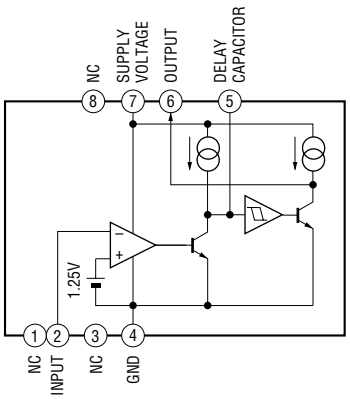
– JUNCTION Board –

IC11 BA6780

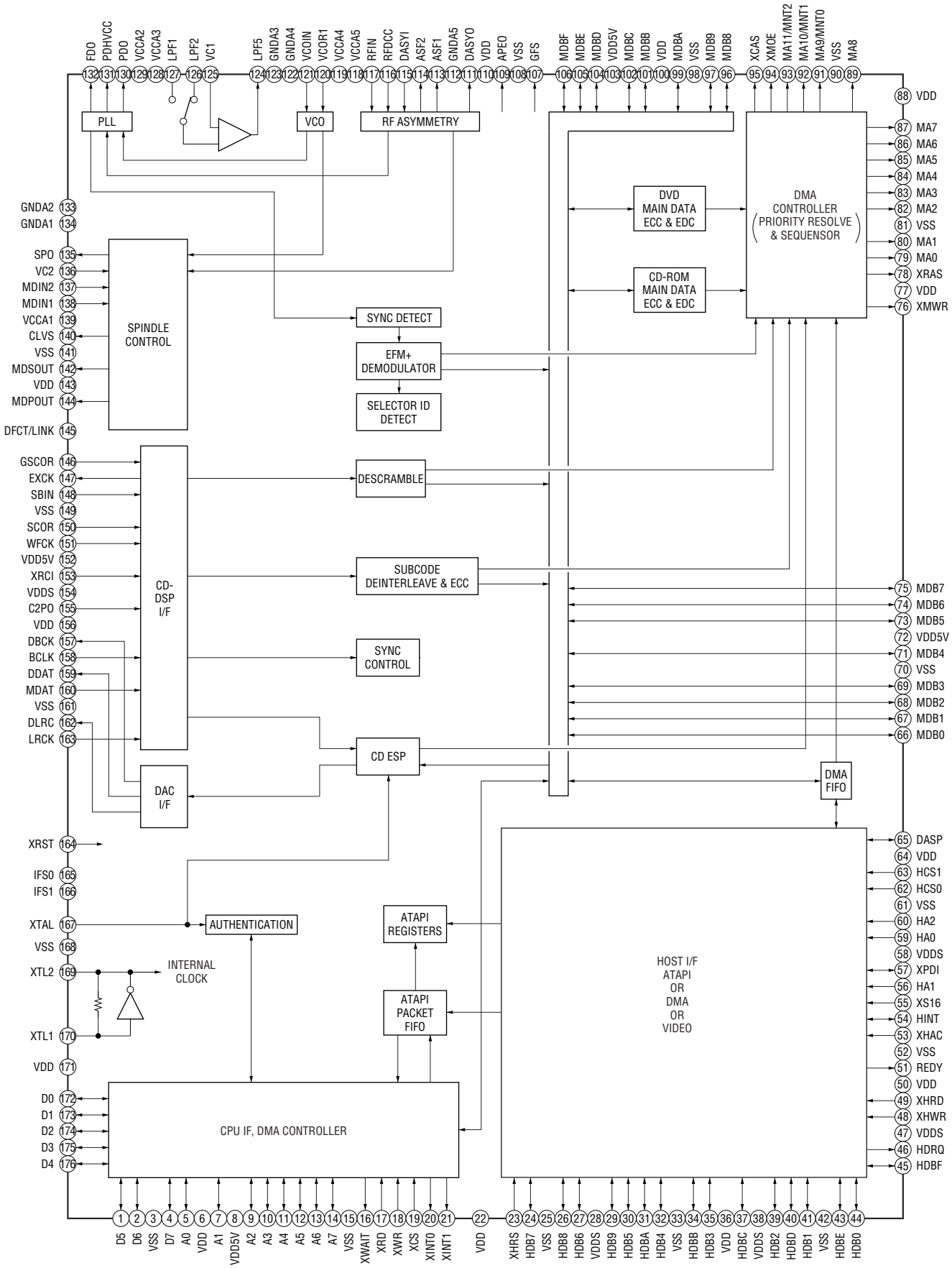


– MAIN Board –

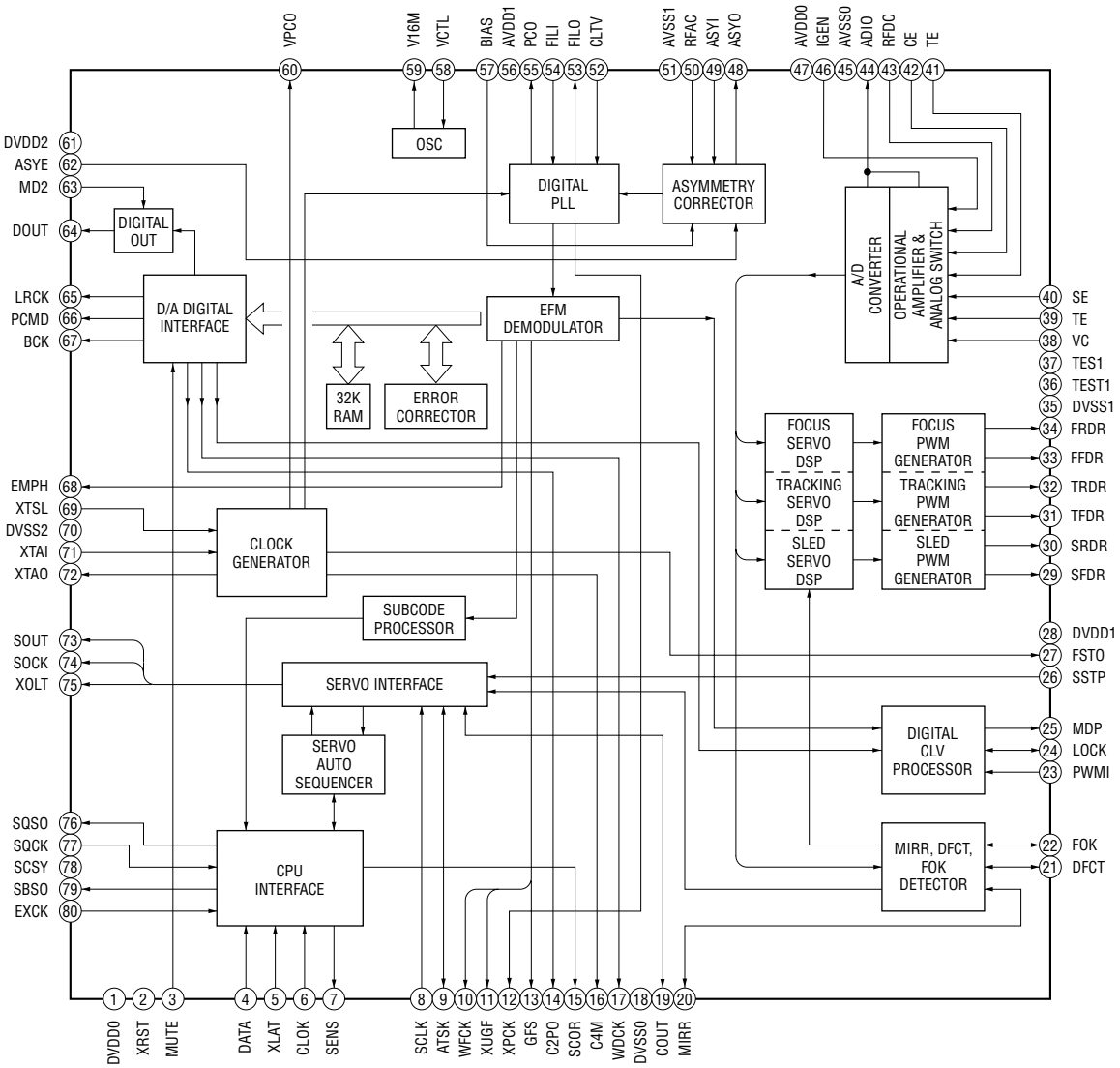
IC905 M51957BFP-600C



IC701 CXD1882R-1

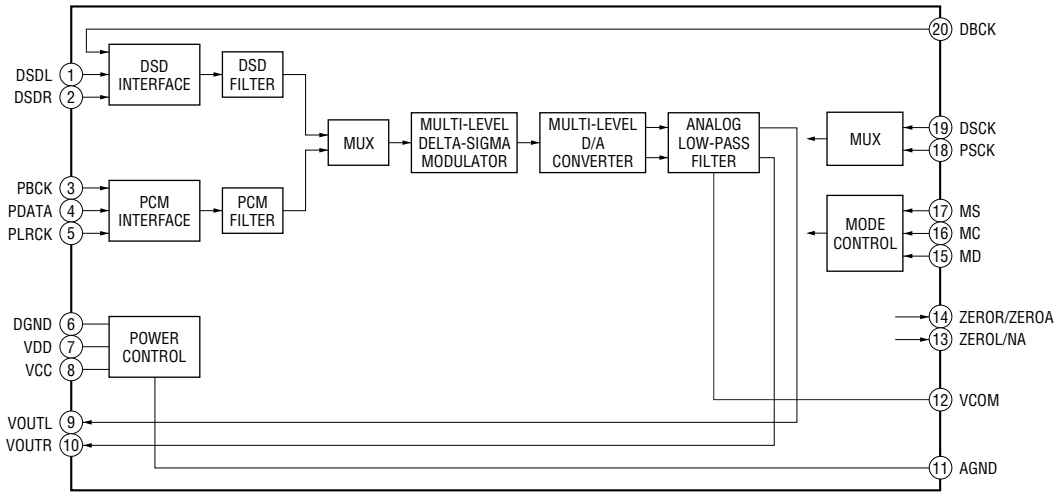


IC509 CXD3068Q



– AUDIO Board –

IC301-303 CXD9658N



6-26. IC PIN FUNCTION DESCRIPTION

• MAIN BOARD IC509 CXD3068Q (DIGITAL SIGNAL PROCESSOR, DIGITAL SERVO PROCESSOR)

Pin No.	Pin Name	I/O	Description
1	DVDD0	—	Power supply terminal (+3.3V) (digital system)
2	XRST	I	Reset signal input from the I/O expander (IC902) "L": reset
3	MUTE	I	Muting on/off control signal input from the I/O expander (IC902) "H": muting on
4	DATA	I	Serial data input from the CPU (IC901)
5	XLAT	I	Serial data latch pulse signal input from the CPU (IC901)
6	CLOK	I	Serial data transfer clock signal input from the CPU (IC901)
7	SENS	O	Internal status (SENSE) signal output to the CPU (IC901)
8	SCLK	I	SENSE serial data reading clock signal input from the CPU (IC901)
9	ATSK	I/O	Input/output terminal for anti-shock Not used (pull down)
10	WFCK	O	Write frame clock signal output to the CXD1882R (IC701)
11	RFCK	O	RFCK signal output terminal Not used (open)
12	XPCK	O	XPCK signal output terminal Not used (open)
13	GFS	O	Guard frame sync signal output to the CPU (IC901)
14	C2PO	O	C2 pointer signal output to the CXD1882R (IC701)
15	SCOR	O	Subcode sync (S0+S1) detection signal output to the CXD1882R (IC701) and CPU (IC901)
16	C4M	O	4.2336 MHz clock signal output terminal Not used (open)
17	WDCK	O	Guard subcode sync (S0+S1) detection signal output to the CXD1882R (IC701)
18	DVSS0	—	Ground terminal (digital system)
19	COUT	O	Numbers of track counted signal output to the CPU (IC901)
20	MIRR	O	Mirror signal output to the CPU (IC901)
21	DFCT	I/O	Defect signal input/output terminal Not used (pull up)
22	FOK	O	Focus OK signal output to the CPU (IC901)
23	PWMI	I	Spindle motor external control signal input terminal Not used (fixed at "L")
24	LOCK	O	GFS is sampled by 460 Hz "H" output when GFS is "H"
25	MDP	O	Spindle motor (M3) servo drive signal output to the CXD1882R (IC701)
26	SSTP	I	Detection signal input from limit in switch (S1) The optical pick-up is inner position when "H"
27	FSTO	O	2/3 divider output terminal Not used (open)
28	DVDD1	—	Power supply terminal (+3.3V) (digital system)
29	SFDR	O	Sled servo drive PWM signal (+) output to the BA5938FP (IC502)
30	SRDR	O	Sled servo drive PWM signal (–) output to the BA5938FP (IC502)
31	TFDR	O	Tracking servo drive PWM signal (+) output to the BA5938FP (IC502)
32	TRDR	O	Tracking servo drive PWM signal (–) output to the BA5938FP (IC502)
33	FFDR	O	Focus servo drive PWM signal (+) output to the BA5938FP (IC502)
34	FRDR	O	Focus servo drive PWM signal (–) output to the BA5938FP (IC502)
35	DVSS1	—	Ground terminal (digital system)
36	TEST	I	Input terminal for the test (fixed at "L")
37	TES1	I	Input terminal for the test (fixed at "L")
38	VC	I	Middle point voltage (+1.65V) input from the NJM3403AV (IC004)
39	FE	I	Focus error signal input from the CXD1881R (IC001)
40	SE	I	Sled error signal input from the CXD1881R (IC001)
41	TE	I	Tracking error signal input from the CXD1881R (IC001)
42	CE	I	Middle point servo analog signal input from the NJM3403AV (IC004)
43	RFDC	I	RF signal input from the CXD1881R (IC001)
44	ADIO	O	Output terminal for the test Not used (open)

Pin No.	Pin Name	I/O	Description
45	AVSS0	—	Ground terminal (analog system)
46	IGEN	I	Stabilized current input for operational amplifiers
47	AVDD0	—	Power supply terminal (+3.3V) (analog system)
48	ASYO	O	EFM full-swing output terminal
49	ASYI	I	Asymmetry comparator voltage input terminal
50	RFAC	I	EFM signal input from the CXD1881R (IC001)
51	AVSS1	—	Ground terminal (analog system)
52	CLTV	I	Internal VCO control voltage input
53	FILO	O	Filter output for master PLL
54	FILI	I	Filter input for master PLL
55	PCO	O	Charge pump output for master PLL
56	AVDD1	—	Power supply terminal (+3.3V) (analog system)
57	BIAS	I	Asymmetry circuit constant current input terminal
58	VCTL	I	VCO control voltage input terminal for the wideband EFM PLL Not used (fixed at “L”)
59	V16M	O	VCO oscillation output terminal for the wideband EFM PLL Not used (open)
60	VPCO	O	Charge pump output terminal for the wideband EFM PLL Not used (pull down)
61	DVDD2	—	Power supply terminal (+3.3V) (digital system)
62	ASYE	I	Asymmetry circuit on/off control signal input terminal “L”: off, “H”: on Not used (fixed at “H”)
63	MD2	I	Digital out on/off control signal input from the CPU (IC901) “L”: digital out off, “H”: digital out on
64	DOUT	O	Digital audio signal output to the DIGITAL (CD) OPTICAL OUT (IC309)
65	LRCK	O	L/R sampling clock signal (44.1 kHz) output to the CXD1882R (IC701) and CXD9647R (IC803)
66	PCMD	O	Serial data output to the CXD1882R (IC701) and CXD9647R (IC803)
67	BCLK	O	Bit clock signal (2.8224 MHz) output to the CXD1882R (IC701) and CXD9647R (IC803)
68	EMPH	O	“L” is output when playback disc is emphasis off “H” is output when playback disc is emphasis on Not used (open)
69	XTSL	I	Input terminal for the system clock frequency setting “L”: 16.9344 MHz, “H”: 33.8688MHz (fixed at “H” in this set)
70	DVSS2	—	Ground terminal (digital system)
71	XTAI	I	System clock input terminal (33.8688 MHz)
72	XTAO	O	System clock output terminal (33.8688 MHz) Not used (open)
73	SOUT	O	Serial data output terminal Not used (open)
74	SOCK	O	Serial data reading clock signal output terminal Not used (open)
75	XOLT	O	Serial data latch pulse signal output terminal Not used (open)
76	SQSO	O	Subcode Q data output to the CPU (IC901)
77	SQCK	I	Subcode Q data reading clock signal input from the CPU (IC901)
78	SCSY	I	Input terminal for resynchronism of guard subcode sync (S0+S1) Not used (open)
79	SBSO	O	Subcode serial data output to the CXD1882R (IC701)
80	EXCK	I	Subcode serial data reading clock signal input to the CXD1882R (IC701)

• **MAIN BOARD IC701 CXD1882R-1 (SACD DECODER)**

Pin No.	Pin Name	I/O	Description
1, 2	D5, D6	I/O	Two-way data bus with the CPU (IC901) and I/O expander (IC902)
3	VSS	—	Ground terminal (digital system)
4	D7	I/O	Two-way data bus with the CPU (IC901) and I/O expander (IC902)
5	A0	I	Address signal input from the CPU (IC901)
6	VDD	—	Power supply terminal (+3.3V) (digital system)
7	A1	I	Address signal input from the CPU (IC901)
8	VDD5V	—	Power supply terminal (+5V)
9 to 14	A2 to A7	I	Address signal input from the CPU (IC901)
15	VSS	—	Ground terminal (digital system)
16	XWAIT	O	Wait signal output terminal Not used (open)
17	XRD	I	Read strobe signal input from the CPU (IC901)
18	XWR	I	Write strobe signal input from the CPU (IC901)
19	XCS	I	Chip select signal input from the CPU (IC901)
20, 21	XINT0, XINT1	O	Interrupt signal output to the CPU (IC901)
22	VDD	—	Power supply terminal (+3.3V) (digital system)
23	XHRS	I	Not used (open)
24	HDB7	O	Stream data signal output to the DSD decoder (IC801)
25	VSS	—	Ground terminal (digital system)
26	HDB8	O	Error flag signal output to the DSD decoder (IC801)
27	HDB6	O	Stream data signal output to the DSD decoder (IC801)
28	VDDS	—	Power supply terminal (+5V) (digital system)
29	HDB9	O	Not used (open)
30	HDB5	O	Stream data signal output to the DSD decoder (IC801)
31	HDBA	O	Not used (open)
32	HDB4	O	Stream data signal output to the DSD decoder (IC801)
33	VSS	—	Ground terminal (digital system)
34	HDBB	O	Not used (open)
35	HDB3	O	Stream data signal output to the DSD decoder (IC801)
36	VDD	—	Power supply terminal (+3.3V) (digital system)
37	HDBC	O	Not used (open)
38	VDDS	—	Power supply terminal (+5V) (digital system)
39	HDB2	O	Stream data signal output to the DSD decoder (IC801)
40	HDBD	O	Not used (open)
41	HDB1	O	Stream data signal output to the DSD decoder (IC801)
42	VSS	—	Ground terminal (digital system)
43	HDBE	O	Not used (open)
44	HDB0	O	Stream data signal output to the DSD decoder (IC801)
45	HDBF	O	Not used (open)
46	XSAK	O	Serial data effect flag signal output to the DSD decoder (IC801)
47	VDDS	—	Power supply terminal (+5V) (digital system)
48	XDCK	O	Serial data transfer clock signal output to the DSD decoder (IC801)
49	XSHD	O	Header flag signal output to the DSD decoder (IC801)
50	VDD	—	Power supply terminal (+3.3V) (digital system)
51	REDY	O	Not used (pull up)
52	VSS	—	Ground terminal (digital system)
53	XSRQ	I	Serial data request signal input from the DSD decoder (IC801)

Pin No.	Pin Name	I/O	Description
54	HINT	O	Not used (pull up)
55	XS16	O	Not used (pull up)
56	HA1	I	Not used (fixed at “H”)
57	XPDI	I/O	Not used (pull up)
58	VDDS	—	Power supply terminal (+5V) (digital system)
59, 60	HA0, HA2	I	Not used (fixed at “H”)
61	VSS	—	Ground terminal (digital system)
62, 63	HCS0, HCS1	I	Not used (open)
64	VDD	—	Power supply terminal (+3.3V) (digital system)
65	DASP	I/O	Not used (pull up)
66 to 69	MDB0 to MDB3	I/O	Two-way data bus with the D-RAM (IC706)
70	VSS	—	Ground terminal (digital system)
71	MDB4	I/O	Two-way data bus with the D-RAM (IC706)
72	VDD5V	—	Power supply terminal (+5V)
73 to 75	MDB5 to MDB7	I/O	Two-way data bus with the D-RAM (IC706)
76	XMWR	O	Write enable signal output to the D-RAM (IC706)
77	VDD	—	Power supply terminal (+3.3V) (digital system)
78	XRAS	O	Row address strobe signal output to the D-RAM (IC706)
79, 80	MA0, MA1	O	Address signal output to the D-RAM (IC706)
81	VSS	—	Ground terminal (digital system)
82 to 87	MA2 to MA7	O	Address signal output to the D-RAM (IC706)
88	VDD	—	Power supply terminal (+3.3V) (digital system)
89	MA8	O	Address signal output to the D-RAM (IC706)
90	VSS	—	Ground terminal (digital system)
91	MA9/MNT0	O	Address signal output to the D-RAM (IC706)
92	MA10/MNT1	O	RF data signal output terminal Not used (open)
93	MA11/MNT2	O	Operation clock signal output for PSP physical disc mark detection to DSD decoder (IC801) Monitor signal output to the CPU (IC901)
94	XMOE	O	Output enable signal output to the D-RAM (IC706)
95	XCAS	O	Column address strobe signal output to the D-RAM (IC706)
96, 97	MDB8, MDB9	I/O	Two-way data bus with the D-RAM (IC706)
98	VSS	—	Ground terminal (digital system)
99	MDBA	I/O	Two-way data bus with the D-RAM (IC706)
100	VDD	—	Power supply terminal (+3.3V) (digital system)
101, 102	MDBB, MDBC	I/O	Two-way data bus with the D-RAM (IC706)
103	VDD5V	—	Power supply terminal (+5V)
104 to 106	MDBD to MDBF	I/O	Two-way data bus with the D-RAM (IC706)
107	GFS	O	Guard frame sync signal output to the CPU (IC901)
108	VSS	—	Ground terminal (digital system)
109	APEO	O	Absolute phase error signal output
110	VDD	—	Power supply terminal (+3.3V) (digital system)
111	DASYO	O	RF binary signal output
112	GNDA5	—	Ground terminal (analog system)
113, 114	ASF1, AFS2	—	Filter connected terminal for selection the constant asymmetry compensation
115	DASYI	I	Analog signal input after integrated from the RF binary signal
116	RFDCC	I	Input terminal for adjusting DC cut high-pass filter for RF signal Not used (open)
117	RFIN	I	RF signal input from the CXD1881R (IC001)

Pin No.	Pin Name	I/O	Description
118, 119	VCCA5, VCCA4	—	Power supply terminal (+3.3V) (analog system)
120	VCOR1	—	VCO oscillating range setting resistor connected terminal
121	VCOIN	I	VCO input terminal
122, 123	GNDA4, GNDA3	—	Ground terminal (analog system)
124	LPF5	O	Signal output from the operation amplifier from PLL loop filter
125	VC1	I	Middle point voltage (+1.65V) input terminal
126, 127	LPF2, LPF1	I	Inverted signal input to the operation amplifier from PLL loop filter
128, 129	VCCA3, VCCA2	—	Power supply terminal (+3.3V) (analog system)
130	PDO	O	Signal output from the charge pump for phase comparator
131	PDHVCC	I	Middle point voltage input terminal for RF PLL
132	FDO	O	Signal output from the charge pump for frequency comparator
133, 134	GNDA2, GNDA1	—	Ground terminal (analog system)
135	SPO	O	Spindle motor (M3) control signal output to the BA5912AFP (IC512)
136	VC2	I	Middle point voltage (+1.65V) input terminal
137	MDIN2	I	Spindle motor (M3) servo drive signal input from the CXD3068Q (IC509)
138	MDIN1	I	MDP input terminal
139	VCCA1	—	Power supply terminal (+3.3V) (analog system)
140	CLVS	O	Control signal output for selection the spindle control filter at CLVS
141	VSS	—	Ground terminal (digital system)
142	MDSOUT	O	Frequency error output terminal of internal CLV circuit
143	VDD	—	Power supply terminal (+3.3V) (digital system)
144	MDPOUT	O	Phase error output terminal of internal CLV circuit
145	DEFECT	I	Defect signal input terminal Not used (fixed at “L”)
146	GSCOR	I	Guard subcode sync (S0+S1) detection signal input from the CXD3068Q (IC509)
147	EXCK	O	Subcode serial data reading clock signal output to the CXD3068Q (IC509)
148	SBIN	I	Subcode serial data input from the CXD3068Q (IC509)
149	VSS	—	Ground terminal (digital system)
150	SCOR	I	Subcode sync (S0+S1) detection signal input from the CXD3068Q (IC509)
151	WFCK	I	Write frame clock signal input from the CXD3068Q (IC509)
152	VDD5V	—	Power supply terminal (+5V)
153	XRCI	I	RAM overflow signal input terminal Not used (fixed at “L”)
154	VDDS	—	Power supply terminal (+5V) (digital system)
155	C2PO	I	C2 pointer signal input from the CXD3068Q (IC509)
156	VDD	—	Power supply terminal (+3.3V) (digital system)
157	DBCK	O	Bit clock signal (2.8224 MHz) output terminal Not used (open)
158	BCLK	I	Bit clock signal (2.8224 MHz) input from the CXD3068Q (IC509)
159	DDAT	O	PCM data output terminal Not used (open)
160	MDAT	I	Serial data input from the CXD3068Q (IC509)
161	VSS	—	Ground terminal (digital system)
162	DLRC	O	L/R sampling clock signal (44.1 kHz) output terminal Not used (open)
163	LRCK	I	L/R sampling clock signal (44.1 kHz) input from the CXD3068Q (IC509)
164	XRST	I	Reset signal input from the I/O expander (IC902) “L”: reset
165	IFS0	I	Interface select signal input terminal Fixed at “L” in this set
166	IFS1	I	Interface select signal input terminal Fixed at “H” in this set
167	XTAL	I	33.8688 MHz clock signal input terminal
168	VSS	—	Ground terminal (digital system)
169	XTA2	O	System clock output terminal (33.8688 MHz)

Pin No.	Pin Name	I/O	Description
170	XTA1	I	System clock input terminal (33.8688 MHz)
171	VDD	—	Power supply terminal (+3.3V) (digital system)
172 to 176	D0 to D4	I/O	Two-way data bus with the CPU (IC901) and I/O expander (IC902)

• **MAIN BOARD IC801 CXD2752R (DSD DECODER)**

Pin No.	Pin Name	I/O	Description
1	VSC	—	Ground terminal (for core)
2	XMSLAT	I	Serial data latch pulse signal input from the CPU (IC901)
3	MSCK	I	Serial data transfer clock signal input from the CPU (IC901)
4	MSDATI	I	Serial data input from the CPU (IC901)
5	VDC	—	Power supply terminal (+2.5V) (for core)
6	MSDATO	O	Serial data output to the CPU (IC901)
7	$\overline{\text{MSREADY}}$	O	Ready signal output to the CPU (IC901) "L": ready
8	XMSDOE	O	Serial data output enable signal output terminal Not used (open)
9	XRST	I	Reset signal input from the I/O expander (IC902) "L": reset
10	SMUTE	I	Muting on/off signal input from the CPU (IC901) "H": muting on
11	MCKI	I	Master clock signal (33.8688 MHz) input terminal
12	VSIO	—	Ground terminal (for I/O)
13	EXCKO1	O	External clock 1 signal output terminal Not used (open)
14	EXCKO2	O	External clock 2 signal output terminal Not used (open)
15	LRCK	O	L/R sampling clock signal (44.1kHz) output terminal Not used (open)
16	FRAME	O	Frame signal output terminal Not used (open)
17	VDIO	—	Power supply terminal (+3.3V) (for I/O)
18 to 21	MNT0 to MNT3	O	Monitor signal output terminal Not used (open)
22 to 25	TESTO	O	Output terminal for the test (normally: open)
26	TCK	I	Clock signal input terminal for the test (normally: fixed at "L")
27	TDI	I	Input terminal for the test (normally: open)
28	VSC	—	Ground terminal (for core)
29	TDO	O	Output terminal for the test (normally: open)
30	TMS	I	Input terminal for the test (normally: open)
31	TRST	I	Reset terminal for the test (normally: fixed at "L")
32 to 34	TEST1 to TEST3	I	Input terminal for the test (normally: fixed at "L")
35	VDC	—	Power supply terminal (+2.5V) (for core)
36	TESTO	O	Output terminal for the test (normally: open)
37	XBIT	O	Monitor terminal relative to DST Not used (open)
38 to 41	SUPDT0 to SUPDT3	O	Supplementary data output terminal Not used (open)
42	VSIO	—	Ground terminal (for I/O)
43, 44	SUPDT4, SUPDT5	O	Supplementary data output terminal Not used (open)
45	VDIO	—	Power supply terminal (+3.3V) (for I/O)
46, 47	SUPDT6, SUPDT7	O	Supplementary data output terminal Not used (open)
48	XSUPAK	O	Supplementary data acknowledge signal output terminal Not used (open)
49	VSC	—	Ground terminal (for core)
50	TESTO	O	Output terminal for the test (normally: open)
51, 52	TESTI	I	Input terminal for the test (normally: fixed at "L")
53	TESTO	O	Output terminal for the test (normally: open)
54	VDC	—	Power supply terminal (+2.5V) (for core)
55, 56	TESTO	O	Output terminal for the test (normally: open)
57	BCKASL	I	Input/output selection signal input terminal of bit clock signal (2.8224 MHz) for DSD data output "L": input (slave), "H": output (master) (fixed at "L" in this set)
58	VSDSD	—	Ground terminal (for DSD data output)
59	BCKAI	I	Bit clock signal (2.8224 MHz) input for DSD data output from the CXD9647R (IC803)

Pin No.	Pin Name	I/O	Description
60	BCKAO	O	Bit clock signal (2.8224 MHz) output terminal for DSD data output Not used (open)
61	PHREFI	I	Phase reference signal input for DSD output phase modulation from the CXD9647R (IC803)
62	PHREFO	O	Phase reference signal output terminal for DSD output phase modulation Not used (open)
63	ZDFL	O	Zero data (front L-ch) flag detection signal output terminal Not used (open)
64	DSAL	O	DSD data (front L-ch) output to the CXD9647R (IC803)
65	ZDFR	O	Zero data (front R-ch) flag detection signal output terminal Not used (open)
66	DSAR	O	DSD data (front R-ch) output to the CXD9647R (IC803)
67	VDDSD	—	Power supply terminal (+3.3V) (For DSD data output)
68	ZDFC	O	Zero data (center) flag detection signal output terminal Not used (open)
69	DSAC	O	DSD data (center) output to the CXD9647R (IC803)
70	ZDFLFE	O	Zero data (sub woofer) flag detection signal output terminal Not used (open)
71	DSALFE	O	DSD data (sub woofer) output to the CXD9647R (IC803)
72	VSDSD	—	Ground terminal (For DSD data output)
73	ZDFLS	O	Zero data (surround L-ch) flag detection signal output terminal Not used (open)
74	DSALS	O	DSD data (surround L-ch) output to the CXD9647R (IC803)
75	ZDFRS	O	Zero data (surround R-ch) flag detection signal output terminal Not used (open)
76	DSARS	O	DSD data (surround R-ch) output to the CXD9647R (IC803)
77	VDDSD	—	Power supply terminal (+3.3V) (For DSD data output)
78, 79	TESTO	O	Output terminal for the test (normally: open)
80	VSC	—	Ground terminal (for core)
81, 82	TESTO	O	Output terminal for the test (normally: open)
83	VDC	—	Power supply terminal (+2.5V) (for core)
84, 85	TESTO	O	Output terminal for the test (normally: open)
86	VSIO	—	Ground terminal (for I/O)
87	TESTO	O	Output terminal for the test (normally: open)
88, 89	TESTI	I	Input terminal for the test (normally: fixed at “L”)
90	VDIO	—	Power supply terminal (+3.3V) (for I/O)
91 to 93	TESTO	O	Output terminal for the test (normally: open)
94	VSC	—	Ground terminal (for core)
95 to 97	TESTI	I	Input terminal for the test (normally: fixed at “L”)
98	TESTO	O	Output terminal for the test (normally: open)
99	VDC	—	Power supply terminal (+2.5V) (for core)
100 to 105	TESTI	I	Input terminal for the test (normally: fixed at “L”)
106	VSIO	—	Ground terminal (for I/O)
107 to 109	TESTI	I	Input terminal for the test (normally: fixed at “L”)
110	VDIO	—	Power supply terminal (+3.3V) (for I/O)
111 to 114	WAD0 to WAD3	I	External A/D data input terminal from the A/D converter for PSP physical disc mark detection Not used (open)
115	TESTI	I	Input terminal for disc inspection mode from the CXD9647R (IC803)
116	VSC	—	Ground terminal (for core)
117 to 120	WAD4 to WAD7	I	External A/D data input terminal from the A/D converter for PSP physical disc mark detection Not used (open)
121	VDC	—	Power supply terminal (+2.5V) (for core)
122	TESTI	I	Input terminal for the test (normally: fixed at “L”)
123	WCK	I	Operation clock signal input for PSP physical disc mark detection from the CXD1882R (IC701)
124, 125	WAVDD	—	A/D power supply terminal (+2.5V) (for PSP physical disc mark detection)

Pin No.	Pin Name	I/O	Description
126	WARFI	I	Analog RF signal input for PSP physical disc mark detection from the CXD1881R (IC001)
127	WAVRB	I	A/D bottom reference terminal for PSP physical disc mark detection
128, 129	WAVSS	—	A/D ground terminal (for PSP physical disc mark detection)
130	VSIO	—	Ground terminal (for I/O)
131 to 134	DQ7 to DQ4	I/O	Two-way data bus with the D-RAM (IC808)
135	VDIO	—	Power supply terminal (+3.3V) (for I/O)
136 to 139	DQ3 to DQ0	I/O	Two-way data bus with the D-RAM (IC808)
140	VSIO	—	Ground terminal (for I/O)
141	DCLK	O	Clock signal output to the D-RAM (IC808)
142	DCKE	O	Clock enable signal output to the D-RAM (IC808)
143	XWE	O	Write enable signal output to the D-RAM (IC808)
144	XCAS	O	Column address strobe signal output to the D-RAM (IC808)
145	XRAS	O	Row address strobe signal output to the D-RAM (IC808)
146	VDIO	—	Power supply terminal (+3.3V) (for I/O)
147	TESTO	O	Output terminal for the test (normally: open)
148, 149	A11, A10	O	Address signal output to the D-RAM (IC808)
150	VSC	—	Ground terminal (for core)
151, 152	A9, A8	O	Address signal output to the D-RAM (IC808)
153	VDC	—	Power supply terminal (+2.5V) (for core)
154 to 157	A7 to A4	O	Address signal output to the D-RAM (IC808)
158	VSIO	—	Ground terminal (for I/O)
159 to 162	A3 to A0	O	Address signal output to the D-RAM (IC808)
163	VDIO	—	Power supply terminal (+3.3V) (for I/O)
164	XSRQ	O	Serial data request signal output to the CXD1882R (IC701)
165	XSHD	I	Header flag signal input from the CXD1882R (IC701)
166	SDCK	I	Serial data transfer clock signal input from the CXD1882R (IC701)
167	XSAK	I	Serial data effect flag signal input from the CXD1882R (IC701)
168	SDEF	I	Error flag signal input from the CXD1882R (IC701)
169 to 176	SD0 to SD7	I	Stream data signal input from the CXD1882R (IC701)

• **MAIN BOARD IC803 CXD9647R (DSD DIGITAL SIGNAL PROCESSOR)**

Pin No.	Pin Name	I/O	Description
1	VDD	—	Power supply terminal (+3.3V) (digital system)
2	XMSDOE	O	Serial data output enable signal output terminal Not used (open)
3	$\overline{\text{MSREADY}}$	I	Ready signal input from the CPU (IC901) "L": ready
4	MSDATO	O	Serial data output to the CPU (IC901)
5	MSDATI	I	Serial data input from the CPU (IC901)
6	MSCK	I	Serial data transfer clock signal input from the CPU (IC901)
7	XMSLAT	I	Serial data latch pulse signal input from the I/O expander (IC902)
8	GND	—	Ground terminal (digital system)
9 to 16	TESTO	O	Output terminal for the test (normally: open)
17, 18	TESTI	I	Input terminal for the test (normally: fixed at "L")
19	TESTO	O	Output terminal for the test (normally: open)
20	GND	—	Ground terminal (digital system)
21	TESTI	I	Input terminal for the test (normally: fixed at "L")
22	GND	—	Ground terminal (digital system)
23	TESTI	I	Input terminal for the test (normally: fixed at "L")
24	TESTO	O	Output terminal for the test (normally: open)
25	VDD	—	Power supply terminal (+3.3V) (digital system)
26	GND	—	Ground terminal (digital system)
27	TESTI	I	Input terminal for the test (normally: fixed at "L")
28	FS128	O	Bit clock signal (2.8224 MHz) output for DSD data output to the DSD decoder (IC801)
29	TESTI	I	Input terminal for the test (normally: fixed at "L")
30	FS64	O	Phase reference signal output for DSD output phase modulation to the DSD decoder (IC801)
31	GND	—	Ground terminal (digital system)
32	DSI1	I	DSD data (front L-ch) input from the DSD decoder (IC801)
33	GND	—	Ground terminal (digital system)
34	DSI2	I	DSD data (front R-ch) input from the DSD decoder (IC801)
35	VDD	—	Power supply terminal (+3.3V) (digital system)
36	DSI3	I	DSD data (center) input from the DSD decoder (IC801)
37	GND	—	Ground terminal (digital system)
38	DSI4	I	DSD data (sub woofer) input from the DSD decoder (IC801)
39	GND	—	Ground terminal (digital system)
40	DSI5	I	DSD data (surround L-ch) input from the DSD decoder (IC801)
41	VDD	—	Power supply terminal (+3.3V) (digital system)
42	DSI6	I	DSD data (surround R-ch) input from the DSD decoder (IC801)
43	GND	—	Ground terminal (digital system)
44 to 46	TESTO	O	Output terminal for the test (normally: open)
47	TESTI	I	Input terminal for the test (normally: fixed at "L")
48	TESTO	O	Output terminal for the test (normally: open)
49	TESTI	I	Input terminal for the test (normally: fixed at "L")
50	GND	—	Ground terminal (digital system)
51	VDD	—	Power supply terminal (+3.3V) (digital system)
52	TESTO	O	Output terminal for the test (normally: open)
53	GND	—	Ground terminal (digital system)
54	TESTO	O	Output terminal for the test (normally: open)
55	GND	—	Ground terminal (digital system)
56	DSAL	O	DSD data (front L-ch) output to the digital filter (IC301)

Pin No.	Pin Name	I/O	Description
57	VDD	—	Power supply terminal (+3.3V) (digital system)
58	DSAR	O	DSD data (front R-ch) output to the digital filter (IC301)
59	GND	—	Ground terminal (digital system)
60	DSALS	O	DSD data (surround L-ch) output to the digital filter (IC302)
61	GND	—	Ground terminal (digital system)
62	DSARS	O	DSD data (surround R-ch) output to the digital filter (IC302)
63	VDD	—	Power supply terminal (+3.3V) (digital system)
64	DSAC	O	DSD data (center) output to the digital filter (IC303)
65	GND	—	Ground terminal (digital system)
66	DSASW	O	DSD data (sub woofer) output to the digital filter (IC303)
67	GND	—	Ground terminal (digital system)
68	PHREFI	I	Phase reference signal input terminal for DSD output phase modulation
69	PHREFO	O	Phase reference signal output for DSD output phase modulation to the digital filter (IC301 to IC303)
70	BCKASL	I	Input/output selection signal input terminal of bit clock signal (2.8224 MHz) for DSD data output “L”: input (slave), “H”: output (master) (fixed at “L” in this set)
71	BCKAO	O	Bit clock signal (2.8224 MHz) output terminal for DSD data output Not used (open)
72	BCKAI	I	Bit clock signal (2.8224 MHz) input terminal for DSD data output Not used
73, 74	TESTO	O	Output terminal for the test Not used
75	VDD	—	Power supply terminal (+3.3V) (digital system)
76	GND	—	Ground terminal (digital system)
77	TESTI	I	Input terminal for the test (normally: fixed at “L”)
78	TESTI	I	Input terminal for the test Not used
79	XSBSL2	I	HD mode selection signal input from the I/O expander (IC902)
80, 81	TESTI	I	Input terminal for the test Not used
82	XABSL1	I	HD mode selection signal input from the I/O expander (IC902)
83, 84	TESTO	O	Output terminal for the test Not used
85	DVCKI	I	11.2896 MHz clock signal input terminal
86	TESTI	I	Input terminal for the test Not used
87	GND	—	Ground terminal (digital system)
88	MCKI	I	Master clock signal (33.8688 MHz) input terminal
89	VDD	—	Power supply terminal (+3.3V) (digital system)
90	LRCK	O	L/R sampling clock signal (44.1kHz) output to the digital filter (IC301 to IC303)
91	CDDATAR	O	Serial data output terminal Not used (open)
92	CDDATAL	O	Serial data output to the digital filter (IC301)
93	CDDATASL	I	CD mode selection signal input from the I/O expander (IC902)
94	BCKI	I	Bit clock signal (2.8224 MHz) input from the CXD3068Q (IC509)
95	LRCKI	I	L/R sampling clock signal (44.1 kHz) input from the CXD3068Q (IC509)
96	CDDATAI	I	Serial data input from the CXD3068Q (IC509)
97	TESTI	I	Input terminal for the test (normally: fixed at “L”)
98	SMUTE	I	Muting on/off signal input from the CPU (IC901) “H”: muting on
99	XRST	I	Reset signal input from the I/O expander (IC902) “L”: reset
100	GND	—	Ground terminal (digital system)

• **MAIN BOARD IC901 CXP974096-001R (CPU)**

Pin No.	Pin Name	I/O	Description
1	MODE DF	O	SACD/CD mode selection signal output to the muting circuit "L": CD mode, "H": SACD mode
2	AMUTE	O	Muting on/off signal output to the analog line circuit "L": muting on
3	DOCTRL	O	Digital out on/off control signal output to the CXD3068Q (IC509) "L": digital out off, "H": digital out on
4	LAT DAC	O	Serial data latch pulse signal output to the D/A converter Not used (open)
5	DATA DAC	O	Serial data output to the D/A converter Not used (open)
6	CLK DAC	O	Serial data transfer clock signal output to the D/A converter Not used (open)
7	FCS JMP 1	O	Focus jump 1 signal output to the BA5983FP (IC502)
8	FCS JMP 2	O	Focus jump 2 signal output to the BA5983FP (IC502)
9	SENS CD	I	Internal status (SENSE) signal input from the CXD3068Q (IC509)
10	XCS DRAM	O	Chip select signal output to the D-RAM Not used (pull up)
11	XCS IO	O	Chip select signal output to the I/O expander (IC902)
12	XCS DVD	O	Chip select signal output to the CXD1882R (IC701)
13	VSS	—	Ground terminal (digital system)
14 to 21	D0 to D7	I/O	Two-way data bus with the CXD1882R (IC701) and I/O expander (IC902)
22	INT0 DVD	I	Interrupt signal input from the CXD1882R (IC701)
23	INT1 DVD	I	Interrupt signal input from the CXD1882R (IC701)
24	T SENS	I	Disc tray status detection signal input from the table sensor (D10)
25	MON DVD	I	Monitor signal input terminal Not used (open)
26	DATA CD	O	Serial data output to the CXD3068Q (IC509)
27	XLAT CD	O	Serial data latch pulse signal output to the CXD3068Q (IC509)
28	A1IN	I	Sircs remote control signal input of the CONTROL A1II (J381)
29	COUT CD	I	Numbers of track counted signal input from the CXD3068Q (IC509)
30	$\overline{\text{IN SW}}$	I	Loading in switch input terminal "L": loading in Not used (fixed at "H")
31	$\overline{\text{OUT SW}}$	I	Loading out switch input terminal "L": loading out Not used (fixed at "H")
32	MIRR RF	I	Mirror signal input from the CXD3068Q (IC509)
33	SUBQ CD	I	Subcode Q data input from the CXD3068Q (IC509)
34	SCOR CD	I	Subcode sync (S0+S1) detection signal input from the CXD3068Q (IC509)
35	SQCLK CD	O	Subcode Q data reading clock signal output to the CXD3068Q (IC509)
36	—	—	Not used (open)
37	CLOK CD	O	Serial data transfer clock signal output to the CXD3068Q (IC509)
38	XRST	I	System reset signal input from the reset signal generator (IC905) "L": reset For several hundreds msec. after the power supply rises, "L" is input, then it changes to "H"
39	VSS	—	Ground terminal (digital system)
40	XTAL	I	System clock input terminal (20 MHz)
41	EXTAL	O	System clock output terminal (20 MHz)
42	VDD	—	Power supply terminal (+3.3V) (digital system)
43	SPDA	O	Spindle motor (M3) control signal output to the BA5912AFP (IC512)
44	APDO	O	Output terminal for offset adjustment of APEO (⑩⑨pin of CXD1882R (IC701))
45	MUTE DSD	O	Muting on/off signal output to the DSD decoder (IC801) and CXD9647R (IC803) "H": muting on
46	XMSLAT	O	Serial data latch pulse signal output to the DSD decoder (IC801)
47	$\overline{\text{READY DSD}}$	I	Ready signal input from the DSD decoder (IC801) and CXD9647R (IC803) "L": ready
48	SDIN DSD	I	Serial data input from the DSD decoder (IC801) and CXD9647R (IC803)
49	SOUT DSD	O	Serial data output to the DSD decoder (IC801) and CXD9647R (IC803)

Pin No.	Pin Name	I/O	Description
50	SCK DSD	O	Serial data transfer clock signal output to the DSD decoder (IC801) and CXD9647R (IC803)
51	LD ON	O	Laser diode on/off control signal output to the CXD1881R (IC001) "L": laser diode off, "H": laser diode on
52	XDIS IO	O	Reset signal output to the I/O expander (IC902) "L": reset
53	SDOUT	O	Serial data output to the MSM9202 (IC801)
54	SLK	O	Serial data transfer clock signal output to the MSM9202 (IC801)
55	VSS	—	Ground terminal (digital system)
56	REQ	O	Request signal output to the MSM9202 (IC801)
57	FCS BST	O	Focus boost signal output terminal Not used (open)
58	GFS DVD	I	Guard frame sync signal input from the CXD1882R (IC701)
59	LED DRV	O	LED drive signal output of the MULTI CHANNEL DECODING indicator (D803) "H": LED on
60	KEY 0	I	Key input terminal (A/D input) S807 to S811 (▷, ▮▮, ■, EX-CHANGE, DISC SKIP) keys input
61	KEY 1	I	Key input terminal (A/D input) S804, S805 (SACD/CD, MILTI/2CH) keys input
62	KEY 2	I	Key input terminal (A/D input) S812 to S816, S830 (TIME/TEXT, MENU, PROGRAM, SHUFFLE, CONTINUE, PUSH ENTER) keys input
63	KEY 3	I	Key input terminal (A/D input) S806, S817 to S821 (⏏ OPEN/CLOSE, DISC 1/2/3/4/5) key input
64	JITTER	I	Jitter signal input
65	TE	I	Tracking error signal input from the CXD1881R (IC001)
66	SP ERR	I	Spindle motor backward voltage input terminal
67	FE/PI	I	Focus error signal input from the CXD1881R (IC001)
68	AVSS	—	Ground terminal (for A/D converter)
69	AVREF	I	Reference voltage input terminal (for A/D converter)
70	AVDD	—	Power supply terminal (+3.3V) (for A/D converter)
71	GFS CD	I	Guard frame sync signal input from the CXD3068Q (IC509)
72	SCLK CD	O	SENSE serial data reading clock signal output to the CXD3068Q (IC509)
73	1/2 LD	—	Not used (open)
74	FOK CD	I	Focus OK signal input from the CXD3068Q (IC509)
75	LOCK CD	I	GFS is sampled by 460 Hz "H" input when GFS is "H"
76	XRF AD CE	O	Chip enable signal output to the A/D converter Not used (open)
77	SDCLK RF	O	Serial data transfer clock signal output to the CXD1881R (IC001)
78	EEPSIO	I/O	Two-way data bus with the EEPROM (IC903)
79	EEPSCL	O	Clock signal output to the EEPROM (IC903)
80	RXD	I	Serial data input from the RS-232C (for check)
81	TXD	O	Serial data output to the RS-232C (for check)
82	RM	I	Remote control signal input from the remote control receiver (IC802)
83	SDATA RF	I/O	Two-way data bus with the CXD1881R (IC001)
84	XWR	O	Write strobe signal output to the CXD1882R (IC701) and I/O expander (IC902)
85	XRD	O	Read strobe signal output to the CXD1882R (IC701) and I/O expander (IC902)
86	PWE	I	Flash writing switch (S902) input terminal "L": writing impossible, "H": writing possible
87	VDD	—	Power supply terminal (+3.3V) (digital system)
88	VSS	—	Ground terminal (digital system)
89 to 91	A0 to A2	O	Address signal output to the CXD1882R (IC701) and I/O expander (IC902)
92 to 96	A3 to A7	O	Address signal output to the CXD1882R (IC701)

Pin No.	Pin Name	I/O	Description
97	INIT DF	O	Initial signal output to the digital filter Not used
98	LATCH DF	O	Latch signal output to the digital filter (IC301 to IC303)
99	SHIFT DF	O	Shift signal output to the digital filter (IC301 to IC303)
100	SCDATA DF	O	Serial data output to the digital filter (IC301 to IC303)

• **MAIN BOARD IC902 CXD1095BR (I/O EXPANDER)**

Pin No.	Pin Name	I/O	Description
1	MUT CD	O	Muting on/off control signal output to the CXD3068Q (IC509) "L": muting on
2	MUT 2D	O	Muting control signal output to the BA5983FP (IC502)
3	MUT LOAD	O	Muting control signal output to the BA5912AFP (IC512)
4	SP ON	O	Muting control signal output to the BA5912AFP (IC512)
5	PB5	—	Not used (open)
6	TBLL	O	Table motor drive signal (counterclockwise direction) output to the BA6780 (IC11)
7	TBLR	O	Table motor drive signal (clockwise direction) output to the BA6780 (IC11)
8	VSS	—	Ground terminal (digital system)
9	PC0	—	Not used (open)
10	D SENS	I	Disc status detection signal input from the disc sensor (D11)
11, 12	S1, S2	I	Disc tray position detection signal input from the table address detect (S200)
13	LOAD OUT	O	Loading motor drive signal (loading out direction) output to the BA6780 (IC11)
14	PC5	—	Not used (open)
15	LOAD IN	O	Loading motor drive signal (loading in direction) output to the BA6780 (IC11)
16	A1OUT	O	Sircs remote control signal output of the CONTROL A1II (J381)
17	NC	—	Not used (open)
18	$\overline{\text{RST DSD}}$	O	Reset signal output to the DSD decoder (IC801) and CXD9647R (IC803) "L": reset
19	$\overline{\text{RST DP}}$	O	Reset signal output to the MSM9202 (IC801) "L": reset
20	$\overline{\text{RST DVD}}$	O	Reset signal output to the CXD1882R (IC701) "L": reset
21	$\overline{\text{RST CD}}$	O	Reset signal output to the CXD3068Q (IC509) "L": reset
22	VMOD	O	Power on/off control signal output for modulation circuit on optical pick-up block "L": power off, "H": power on
23	VSS	—	Ground terminal (digital system)
24	VDD	—	Power supply terminal (+3.3V) (digital system)
25	MULTI	O	Multi/2ch selection signal output "L": 2ch, "H": multi
26	SDEN	O	Serial data enable signal output to CXD1881R (IC001)
27	ISBTEST	O	Output terminal for disc inspection mode to DSD decoder (IC801)
28 to 30	D0 to D2	I/O	Two-way data bus with the CXD1882R (IC701) and the CPU (IC901)
31, 32	NC	—	Not used (open)
33 to 37	D3 to D7	I/O	Two-way data bus with the CXD1882R (IC701) and the CPU (IC901)
38	XCLR	I	Clear signal input terminal Not used (fixed at "H")
39	XDIS	I	Reset signal input from the CPU (IC901) "L": reset
40	VSS	—	Ground terminal (digital system)
41	XWR	I	Write strobe signal input from the CPU (IC901)
42	XRD	I	Read strobe signal input from the CPU (IC901)
43	XCS	I	Chip select signal input from the CPU (IC901)
44 to 46	A0 to A2	I	Address signal input from the CPU (IC901)
47, 48	PE0, PE1	—	Not used (open)
49	NC	—	Not used (open)
50	PE2	—	Not used (open)
51	CDMODESEL	O	CD mode selection signal output to the CXD9647R (IC803)
52	HDMODESEL	O	HD mode selection signal output to the CXD9647R (IC803)
53	XZLAT	O	Serial data latch pulse signal output to the CXD9647R (IC803)
54	CD SACD	O	SACD/CD mode selection signal output terminal Not used
55	VSS	—	Ground terminal (digital system)

Pin No.	Pin Name	I/O	Description
56	VDD	—	Power supply terminal (+3.3V) (digital system)
57, 58	PA3, PA4	—	Not used (open)
59	OUT SW	I	Disc tray open/close detection switch (S11) input terminal “L”: disc tray open, “H”: disc trat close
60	PA6	—	Not used (open)
61	LIM SW	I	Detection signal input from limit in switch (S1) The optical pick-up is inner position when “H”
62	PB0	—	Not used (open)
63, 64	NC	—	Not used (open)

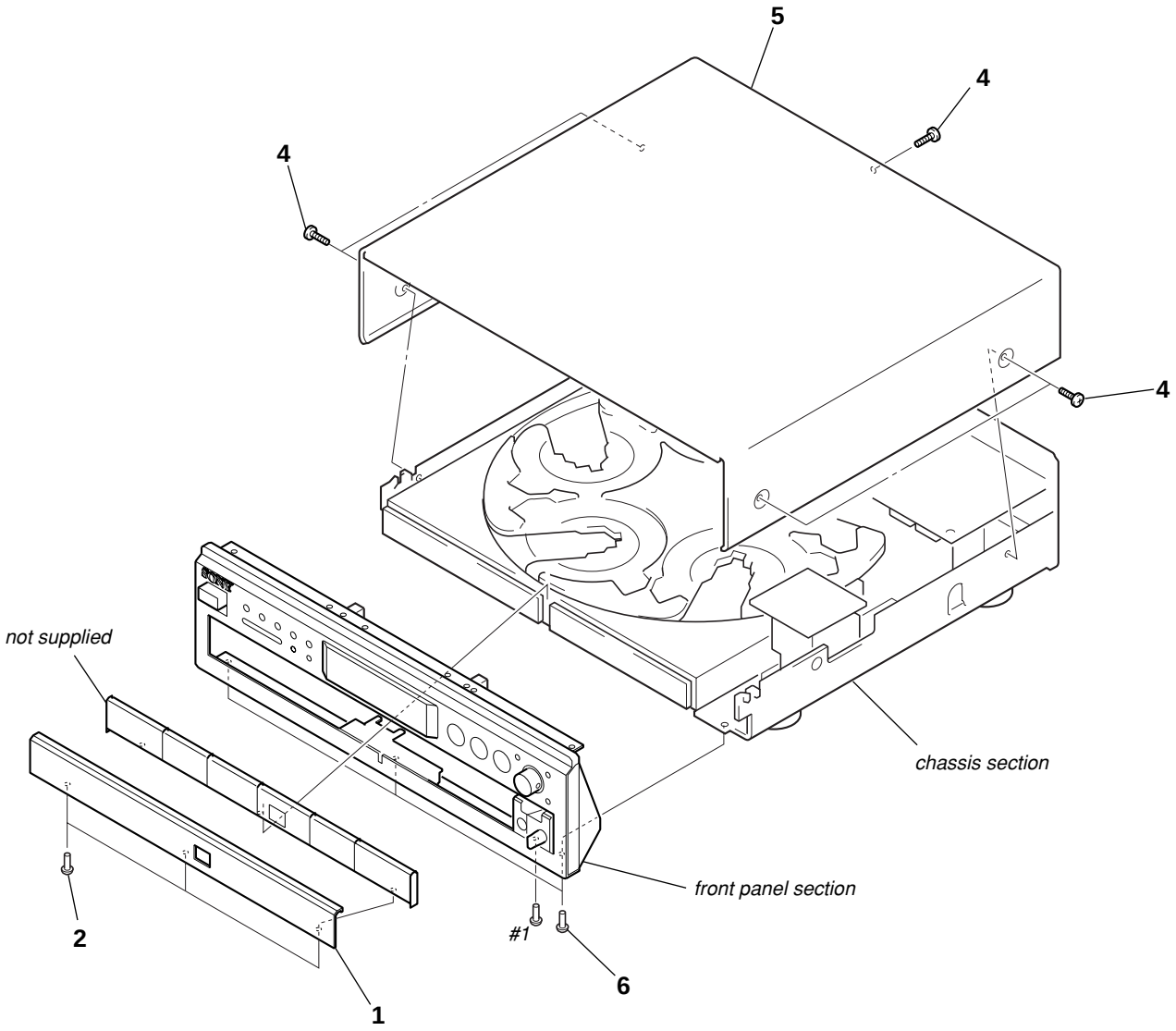
SECTION 7
EXPLODED VIEWS

NOTE:
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts
  Example:
  KNOB, BALANCE (WHITE) . . . (RED)
  ↑ ↑
  Parts Color Cabinet's Color
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Accessories and packing materials are given in the last of the electrical parts list.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

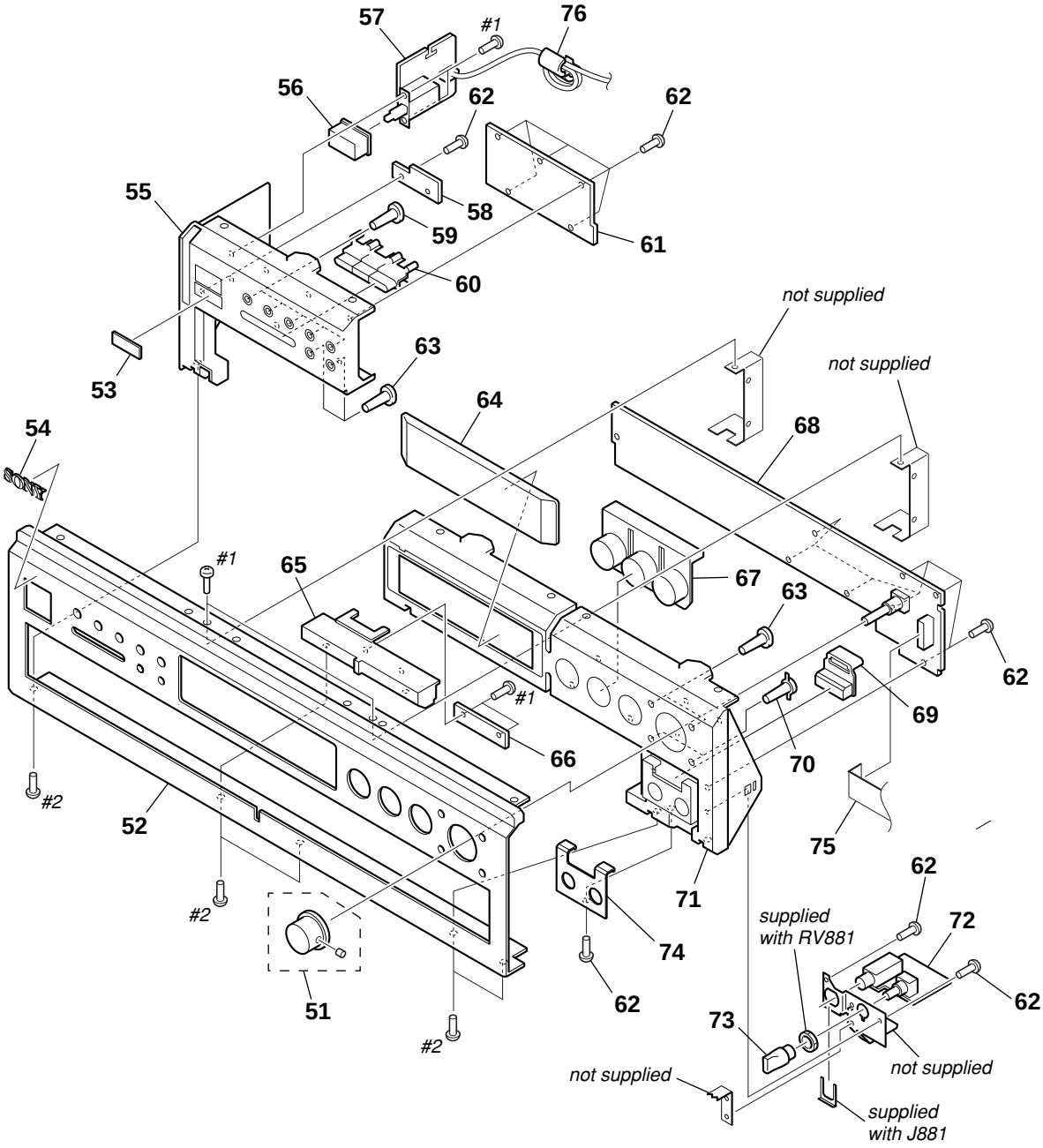
Les composants identifiés par une marque ⚠ sont critiquens pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

7-1. CASE SECTION



Ref. No.	Part No.	Description	Remark
1	4-235-589-01	PANEL, LOADING	
2	4-951-620-01	SCREW (2.6X8), +BVTP	
4	4-227-843-01	SCREW (TP), FLAT HEAD	
5	4-235-592-01	CASE	
6	4-929-074-01	SCREW (3X8)	
#1	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	

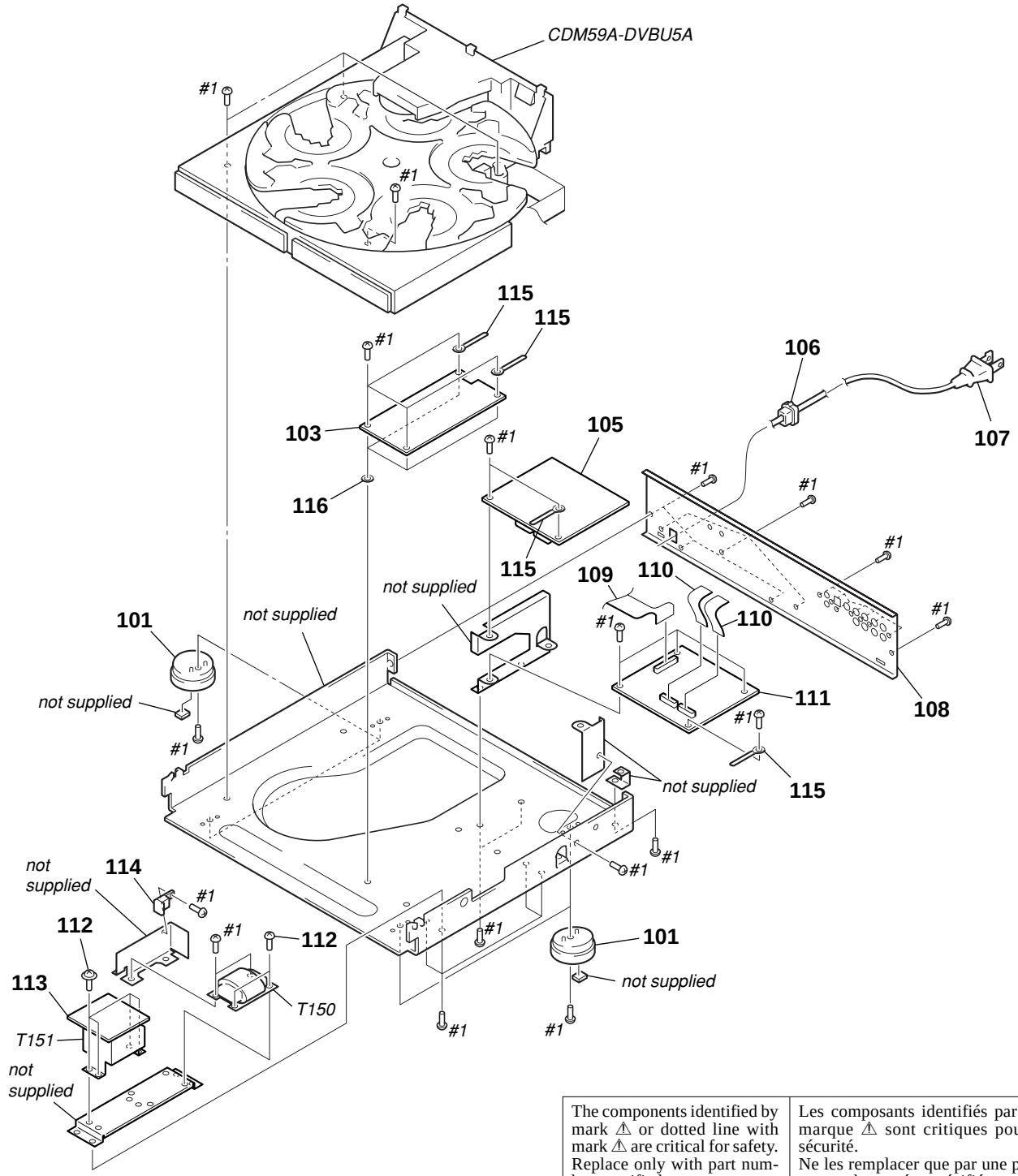
7-2. FRONT PANEL SECTION



Ref. No.	Part No.	Description	Remark
51	4-230-637-11	KNOB (AMS)	
52	4-235-576-01	PANEL, FRONT	
53	4-235-586-01	WINDOW (REMOTE CONTROL)	
54	4-942-568-41	EMBLEM (NO.5), SONY	
55	4-235-578-01	BASE (L), PANEL	
56	4-923-520-01	KNOB, POWER	
57	1-682-032-11	POWER SW BOARD	
58	1-682-035-11	RM BOARD	
59	4-235-583-11	BUTTON (DIA.3.5)	
60	4-235-581-01	BUTTON (PLAY MODE)	
61	1-682-031-11	KEY BOARD	
62	4-951-620-01	SCREW (2.6X8), +BVTP	
63	4-235-583-01	BUTTON (DIA.3.5)	
64	4-230-721-01	WINDOW (FL)	

Ref. No.	Part No.	Description	Remark
65	X-4954-182-1	BASE (INDICATOR) ASSY, PANEL	
66	1-682-034-11	LED BOARD	
67	4-230-722-01	BUTTON (PLAY)	
68	A-4726-302-A	DISPLAY BOARD, COMPLETE	
69	4-235-580-01	BUTTON (OPEN/CLOSE)	
70	X-4953-971-1	BUTTON (INDICATOR) ASSY	
71	4-235-577-01	BASE (R), PANEL	
72	1-682-033-11	HEADPHONE BOARD	
73	3-354-931-11	KNOB (DIA.10)	
74	4-235-590-01	ESCUTCHEON (H.P)	
75	1-690-892-11	WIRE (FLAT TYPE) (12 CORE)	
76	1-500-082-11	CLAMP, SLEEVE FERRITE	
#1	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	
#2	7-685-885-09	SCREW +BVTT 4X16 (S)	

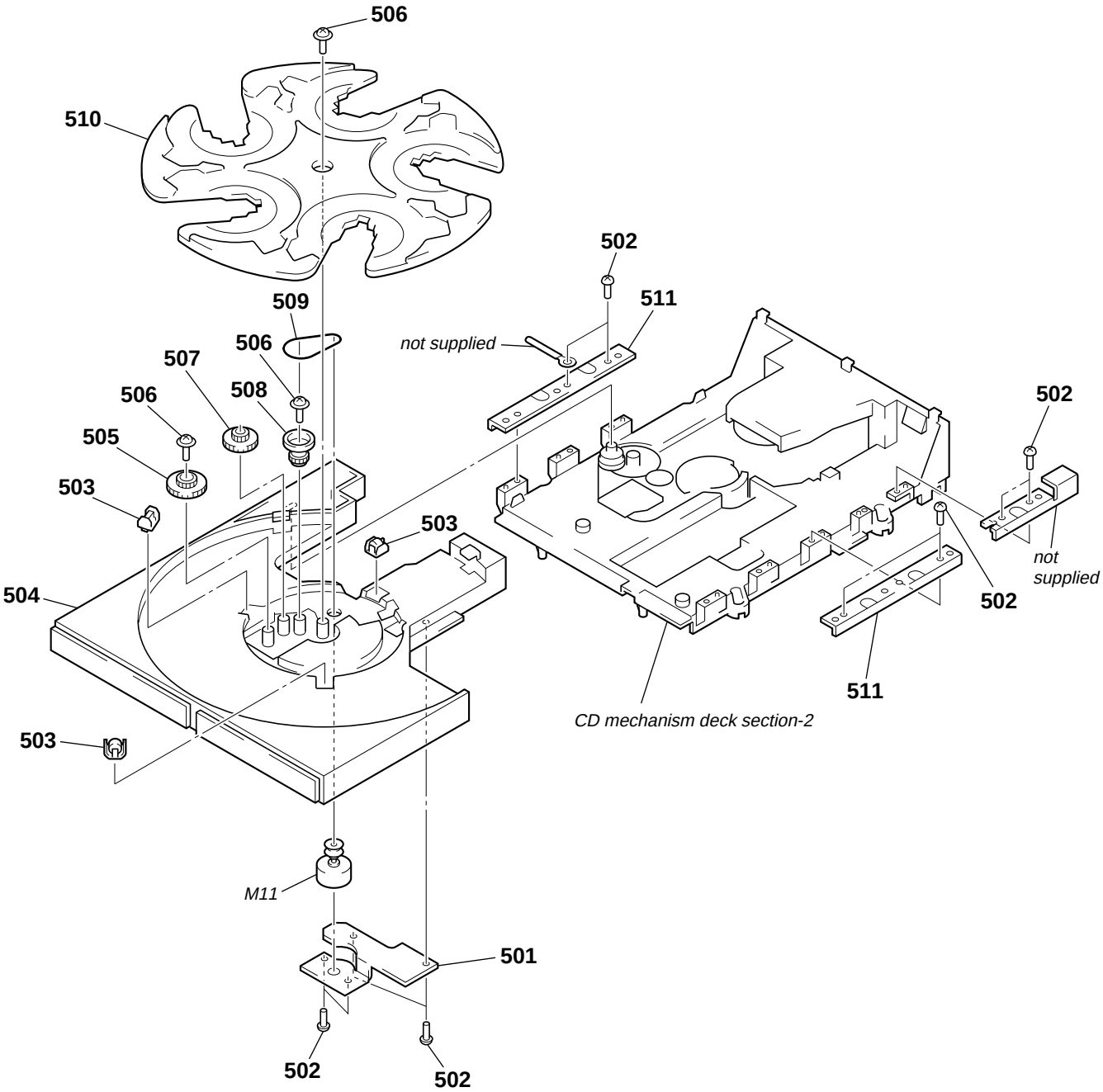
7-3. CHASSIS SECTION



The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

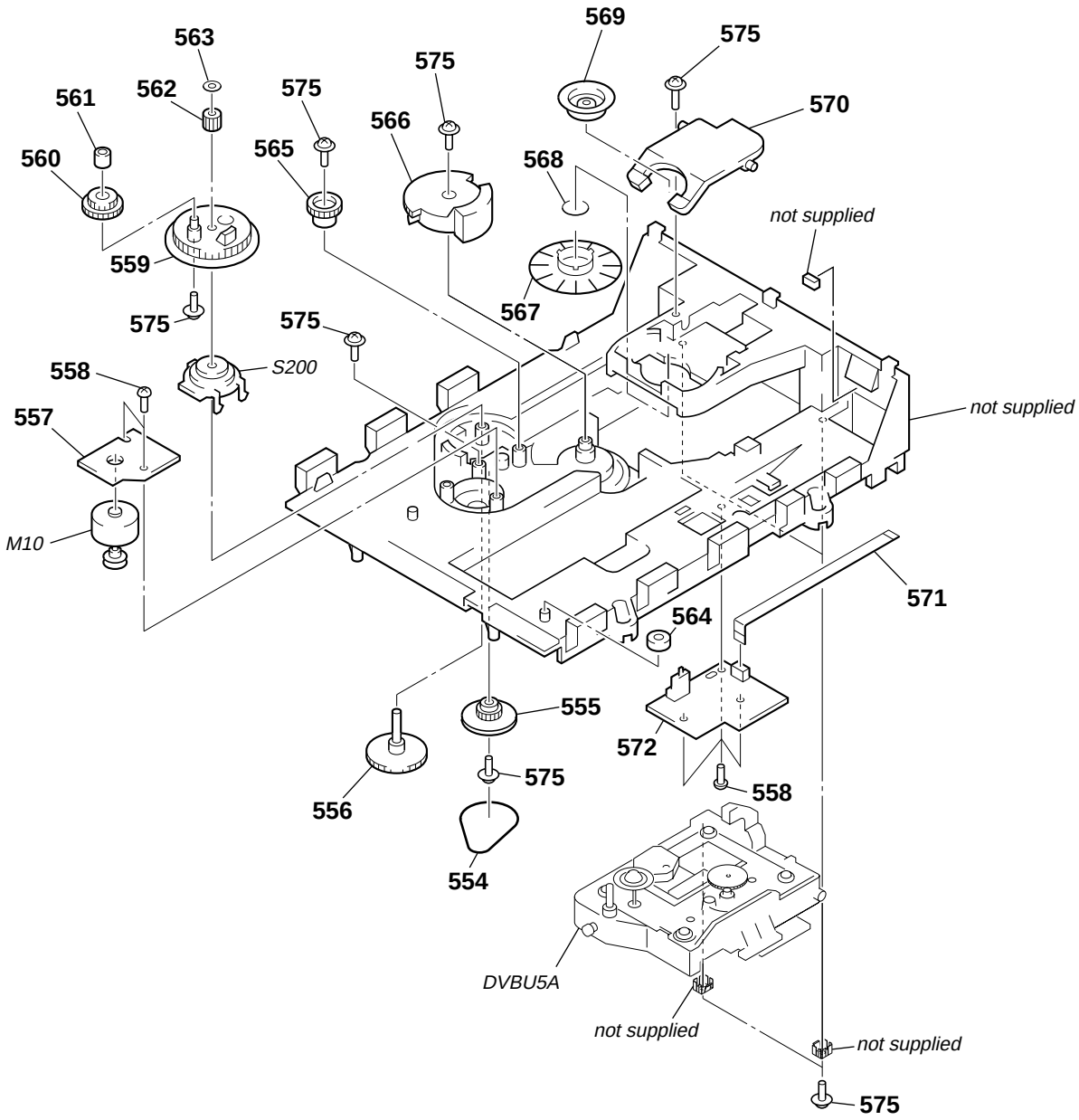
Ref. No.	Part No.	Description	Remark
101	4-970-123-01	FOOT (F50180S)	
103	A-4726-309-A	POWER BOARD, COMPLETE	
105	A-4726-308-A	AUDIO BOARD, COMPLETE	
* 106	3-703-244-00	BUSHING (2104), CORD	
⚠107	1-783-531-31	CORD, POWER	
108	4-235-591-01	PANEL, BACK	
109	1-757-850-11	WIRE (FLAT TYPE) (30 CORE)	
110	1-775-167-11	WIRE (FLAT TYPE) (19 CORE)	
111	A-4725-687-A	MAIN BOARD, COMPLETE	
112	3-703-249-01	SCREW, S TIGHT, +PTTWH 3X6	
113	1-681-339-11	PT BOARD	
114	1-682-159-11	REG BOARD	
* 115	3-703-150-11	CLAMP	
116	4-971-099-01	WASHER (P)	
⚠T150	1-431-174-21	TRANSFORMER, POWER	
⚠T151	1-437-300-11	TRANSFORMER, POWER	
#1	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	

7-4. CD MECHANISM DECK SECTION-1 (CDM59A-DVBU5A)



Ref. No.	Part No.	Description	Remark
501	1-676-245-11	SENSOR BOARD	
502	4-218-253-32	SCREW (M2.6), +BTTP	
503	X-4947-960-1	ROLLER ASSY	
504	4-224-602-03	TABLE	
505	4-224-617-01	GEAR (RM-E)	
506	4-218-252-52	SCREW (+PTPWH M2.6), FLOATING	
507	4-224-616-01	GEAR (RM-M)	
508	4-224-615-03	GEAR (RM-B)	
509	4-225-328-01	BELT (ROTARY)	
510	4-224-603-06	TRAY	
511	4-224-619-01	BRACKET (GUIDE)	
M11	A-4735-761-A	MOTOR ASSY, ROTARY (TRAY)	

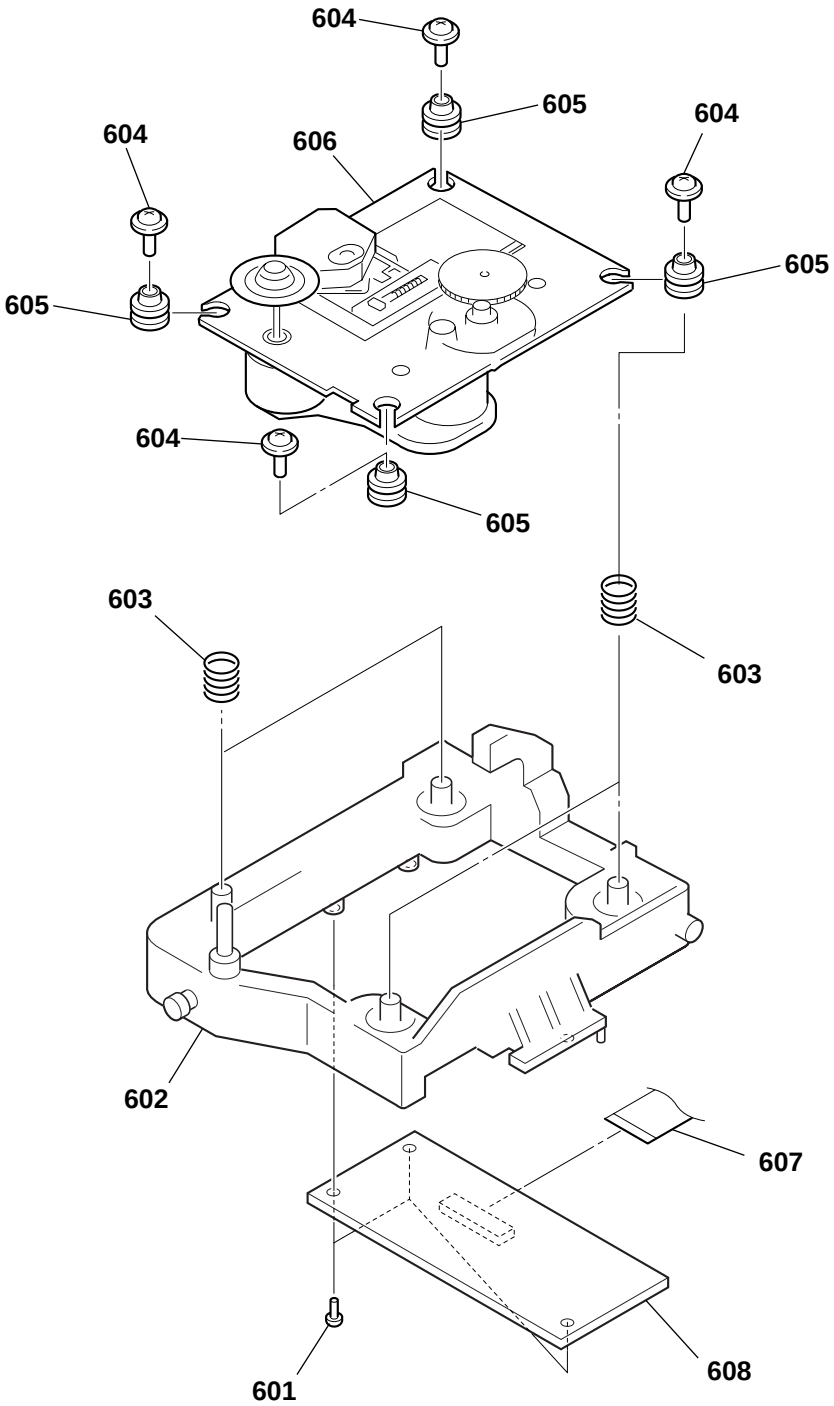
7-5. CD MECHANISM DECK SECTION-2 (CDM59A-DVBU5A)



Ref. No.	Part No.	Description	Remark
554	4-225-885-01	BELT (LOADING)	
555	4-225-844-01	GEAR (LOADING A)	
556	4-224-613-01	GEAR (SHAFT)	
557	1-676-244-11	LOADING MOTOR BOARD	
558	4-218-253-32	SCREW (M2.6), +BTTP	
559	4-224-607-01	GEAR, SWING	
560	4-224-609-01	GEAR (LOADING C)	
561	4-224-608-01	COLLAR, SWING	
562	4-224-611-01	GEAR (LOADING B)	
563	3-016-533-01	WASHER (FR), STOPPER	
* 564	4-951-619-01	CUSHION (A)	
565	4-224-606-01	GEAR (RV)	

Ref. No.	Part No.	Description	Remark
566	4-237-034-01	GEAR (U/D)	
567	X-4954-095-1	PLATE (A) ASSY, CHUCKING	
568	3-053-844-01	YOKE	
569	4-229-957-01	PLATE (B), CHUCKING	
570	4-224-618-01	LEVER (LIFTER)	
571	1-791-930-11	WIRE (FLAT TYPE) (6 CORE)	
572	1-676-246-11	JUNCTION BOARD	
575	4-218-252-52	SCREW (+PTPWH M2.6), FLOATING	
M10	A-4735-762-A	MOTOR ASSY, LOADING	
S200	1-418-746-11	ENCODER, ROTARY (BU, TABLE ADDRESS DETECT)	

7-6. BASE UNIT SECTION (DVBU5A)



The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description	Remark
601	4-218-253-32	SCREW (M2.6), +BTTP	
602	X-4953-653-3	HOLDER (BU) ASSY	
603	4-231-449-01	SPRING (230), CONE TYPE COIL	
604	4-985-672-01	SCREW (+PTPWHM2.6), FLOATING	
605	4-227-549-11	INSULATOR	
⚠606	8-820-132-03	OPTICAL PICK-UP BLOCK (KHM230AAA/J1RP)	
607	1-757-097-11	WIRE (FLAT TYPE) (25 CORE)	
608	A-4726-887-A	RF BOARD, COMPLETE	

SECTION 8
ELECTRICAL PARTS LIST

AUDIO

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL: Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F: nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service.
  Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u: μ, for example:
  uA. . : μA. . uPA. . : μPA. .
  uPB. . : μPB. . uPC. . : μPC. .
  uPD. . : μPD. .
- CAPACITORS
  uF: μF
- COILS
  uH: μH

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiquens pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

When indicating parts by reference number, please include the board.

Ref. No.	Part No.	Description			Remark
	A-4726-308-A	AUDIO BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C303	1-102-953-00	CERAMIC	18PF	5%	50V
C304	1-102-953-00	CERAMIC	18PF	5%	50V
C305	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C306	1-127-694-11	ELECT	47uF	20%	25V
C307	1-127-694-11	ELECT	47uF	20%	25V
C308	1-127-694-11	ELECT	47uF	20%	25V
C309	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C311	1-127-694-11	ELECT	47uF	20%	25V
C312	1-127-694-11	ELECT	47uF	20%	25V
C313	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C315	1-127-694-11	ELECT	47uF	20%	25V
C316	1-119-800-11	ELECT	100uF	20%	25V
C317	1-119-800-11	ELECT	100uF	20%	25V
C318	1-119-800-11	ELECT	100uF	20%	25V
C319	1-119-800-11	ELECT	100uF	20%	25V
C320	1-119-800-11	ELECT	100uF	20%	25V
C321	1-119-800-11	ELECT	100uF	20%	25V
C322	1-119-800-11	ELECT	100uF	20%	25V
C323	1-119-800-11	ELECT	100uF	20%	25V
C324	1-104-665-11	ELECT	100uF	20%	10V
C325	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C327	1-162-960-11	CERAMIC CHIP	220PF	10%	50V
C328	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C329	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C330	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C331	1-128-200-11	ELECT	47uF	20%	50V
C332	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C333	1-126-926-11	ELECT	1000uF	20%	10V
C334	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C335	1-126-934-11	ELECT	220uF	20%	10V
C336	1-119-800-11	ELECT	100uF	20%	25V
C337	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C338	1-127-694-11	ELECT	47uF	20%	25V
C339	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C340	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C344	1-127-694-11	ELECT	47uF	20%	25V
C345	1-127-694-11	ELECT	47uF	20%	25V
C346	1-127-694-11	ELECT	47uF	20%	25V
C381	1-163-033-00	CERAMIC CHIP	0.022uF		50V
C401	1-127-694-11	ELECT	47uF	20%	25V
C402	1-136-811-11	FILM	330PF	5%	100V
C403	1-136-356-11	FILM	470PF	5%	100V
C404	1-130-892-00	FILM	0.015uF	5%	63V
C405	1-109-857-11	ELECT	47uF	20%	63V
C406	1-136-808-11	FILM	100PF	5%	100V
C407	1-136-808-11	FILM	100PF	5%	100V
C408	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C409	1-163-239-11	CERAMIC CHIP	33PF	5%	50V
C410	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C411	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C412	1-136-813-11	FILM	680PF	5%	100V
C421	1-127-694-11	ELECT	47uF	20%	25V
C422	1-136-811-11	FILM	330PF	5%	100V
C423	1-136-356-11	FILM	470PF	5%	100V
C424	1-130-892-00	FILM	0.015uF	5%	63V
C425	1-109-857-11	ELECT	47uF	20%	63V
C426	1-136-808-11	FILM	100PF	5%	100V
C427	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C428	1-136-813-11	FILM	680PF	5%	100V
C441	1-127-694-11	ELECT	47uF	20%	25V
C442	1-136-811-11	FILM	330PF	5%	100V
C443	1-136-356-11	FILM	470PF	5%	100V
C444	1-130-892-00	FILM	0.015uF	5%	63V
C445	1-109-857-11	ELECT	47uF	20%	63V
C446	1-136-808-11	FILM	100PF	5%	100V
C447	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C448	1-136-813-11	FILM	680PF	5%	100V
C501	1-127-694-11	ELECT	47uF	20%	25V
C502	1-136-811-11	FILM	330PF	5%	100V
C503	1-136-356-11	FILM	470PF	5%	100V
C504	1-130-892-00	FILM	0.015uF	5%	63V
C505	1-109-857-11	ELECT	47uF	20%	63V
C506	1-136-808-11	FILM	100PF	5%	100V
C507	1-136-808-11	FILM	100PF	5%	100V
C508	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C509	1-163-239-11	CERAMIC CHIP	33PF	5%	50V
C510	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C512	1-136-813-11	FILM	680PF	5%	100V
C521	1-127-694-11	ELECT	47uF	20%	25V
C522	1-136-811-11	FILM	330PF	5%	100V
C523	1-136-356-11	FILM	470PF	5%	100V
C524	1-130-892-00	FILM	0.015uF	5%	63V
C525	1-109-857-11	ELECT	47uF	20%	63V

AUDIO

Ref. No.	Part No.	Description			Remark
C526	1-136-808-11	FILM	100PF	5%	100V
C528	1-136-813-11	FILM	680PF	5%	100V
C541	1-127-694-11	ELECT	47uF	20%	25V
C542	1-136-811-11	FILM	330PF	5%	100V
C543	1-136-356-11	FILM	470PF	5%	100V
C544	1-130-892-00	FILM	0.015uF	5%	63V
C545	1-109-857-11	ELECT	47uF	20%	63V
C546	1-136-808-11	FILM	100PF	5%	100V
C548	1-136-813-11	FILM	680PF	5%	100V
		< CONNECTOR >			
* CN301	1-564-524-11	PLUG, CONNECTOR 9P			
CN302	1-779-556-21	CONNECTOR, FFC (LIF (NON-ZIF)) 19P			
CN303	1-779-556-21	CONNECTOR, FFC (LIF (NON-ZIF)) 19P			
CN304	1-568-955-11	PIN, CONNECTOR 6P			
CN305	1-506-468-11	PIN, CONNECTOR 3P			
		< DIODE >			
D301	8-719-049-09	DIODE 1SS367-T3SONY			
D302	8-719-049-09	DIODE 1SS367-T3SONY			
D303	8-719-049-09	DIODE 1SS367-T3SONY			
D304	8-719-049-09	DIODE 1SS367-T3SONY			
D305	8-719-049-09	DIODE 1SS367-T3SONY			
D306	8-719-049-09	DIODE 1SS367-T3SONY			
D307	8-719-049-09	DIODE 1SS367-T3SONY			
D381	8-719-016-74	DIODE 1SS352			
		< IC >			
IC301	6-700-073-01	IC CXD9658N			
IC302	6-700-073-01	IC CXD9658N			
IC303	6-700-073-01	IC CXD9658N			
IC304	8-759-660-27	IC SN74HCU04APWR			
IC305	8-759-447-30	IC NJM2114M-TE2			
IC306	8-759-447-30	IC NJM2114M-TE2			
IC307	8-759-447-30	IC NJM2114M-TE2			
IC308	8-759-711-85	IC NJM4580E-D			
IC309	8-749-012-69	IC GP1F38T (DIGITAL (CD) OUT OPTICAL)			
IC310	8-759-445-59	IC BA033T			
		< JACK >			
J301	1-794-794-11	JACK, PIN 2P (ANALOG 2CH OUT)			
J302	1-794-792-11	JACK, PIN 6P (ANALOG 5.1CH OUT FRONT/SURR/CENTER/SUB WOOFER)			
J303	1-770-905-21	JACK, PIN 1P (DIGITAL (CD) OUT COAXIAL)			
J381	1-779-655-21	JACK (SMALL TYPE) (2 GANG) (CONTROL A1II)			
		< RESISTOR/COIL/NOISE FILTER >			
L301	1-216-033-00	METAL CHIP	220	5%	1/10W
L302	1-216-025-11	RES-CHIP	100	5%	1/10W
L303	1-216-025-11	RES-CHIP	100	5%	1/10W
L304	1-216-025-11	RES-CHIP	100	5%	1/10W
L305	1-414-553-11	FERRITE	0uH		
L307	1-410-375-11	INDUCTOR CHIP	3.3uH		
L308	1-410-375-11	INDUCTOR CHIP	3.3uH		
L310	1-424-122-11	FILTER, NOISE			
L311	1-410-375-11	INDUCTOR CHIP	3.3uH		
L381	1-410-375-11	INDUCTOR CHIP	3.3uH		

Ref. No.	Part No.	Description			Remark
L401	1-216-033-00	METAL CHIP	220	5%	1/10W
L402	1-216-033-00	METAL CHIP	220	5%	1/10W
L403	1-216-033-00	METAL CHIP	220	5%	1/10W
L404	1-414-553-11	FERRITE	0uH		
L501	1-216-033-00	METAL CHIP	220	5%	1/10W
L502	1-216-033-00	METAL CHIP	220	5%	1/10W
L503	1-216-033-00	METAL CHIP	220	5%	1/10W
L504	1-414-553-11	FERRITE	0uH		
		< TRANSISTOR >			
Q301	8-729-027-35	TRANSISTOR	DTA143TKA-T146		
Q302	8-729-120-28	TRANSISTOR	2SC1623-L5L6		
Q303	8-729-027-35	TRANSISTOR	DTA143TKA-T146		
Q381	8-729-120-28	TRANSISTOR	2SC1623-L5L6		
Q401	8-729-141-74	TRANSISTOR	2SC3624A-T2L15L16		
Q402	8-729-141-74	TRANSISTOR	2SC3624A-T2L15L16		
Q403	8-729-141-74	TRANSISTOR	2SC3624A-T2L15L16		
Q421	8-729-141-74	TRANSISTOR	2SC3624A-T2L15L16		
Q422	8-729-141-74	TRANSISTOR	2SC3624A-T2L15L16		
Q441	8-729-141-74	TRANSISTOR	2SC3624A-T2L15L16		
Q442	8-729-141-74	TRANSISTOR	2SC3624A-T2L15L16		
Q501	8-729-141-74	TRANSISTOR	2SC3624A-T2L15L16		
Q502	8-729-141-74	TRANSISTOR	2SC3624A-T2L15L16		
Q503	8-729-141-74	TRANSISTOR	2SC3624A-T2L15L16		
Q521	8-729-141-74	TRANSISTOR	2SC3624A-T2L15L16		
Q522	8-729-141-74	TRANSISTOR	2SC3624A-T2L15L16		
Q541	8-729-141-74	TRANSISTOR	2SC3624A-T2L15L16		
Q542	8-729-141-74	TRANSISTOR	2SC3624A-T2L15L16		
		< RESISTOR >			
R301	1-216-009-00	RES-CHIP	22	5%	1/10W
R305	1-216-025-11	RES-CHIP	100	5%	1/10W
R306	1-216-025-11	RES-CHIP	100	5%	1/10W
R307	1-216-025-11	RES-CHIP	100	5%	1/10W
R308	1-216-009-00	RES-CHIP	22	5%	1/10W
R309	1-216-009-00	RES-CHIP	22	5%	1/10W
R310	1-216-025-11	RES-CHIP	100	5%	1/10W
R311	1-216-013-00	METAL CHIP	33	5%	1/10W
R312	1-216-009-00	RES-CHIP	22	5%	1/10W
R313	1-216-017-00	RES-CHIP	47	5%	1/10W
R314	1-216-009-00	RES-CHIP	22	5%	1/10W
R315	1-216-097-11	RES-CHIP	100K	5%	1/10W
R316	1-216-009-00	RES-CHIP	22	5%	1/10W
R317	1-216-824-11	METAL CHIP	1.8K	5%	1/16W
R318	1-216-824-11	METAL CHIP	1.8K	5%	1/16W
R319	1-216-033-00	METAL CHIP	220	5%	1/10W
R320	1-216-807-11	METAL CHIP	68	5%	1/16W
R321	1-216-097-11	RES-CHIP	100K	5%	1/10W
R323	1-216-121-11	RES-CHIP	1M	5%	1/10W
R324	1-216-097-11	RES-CHIP	100K	5%	1/10W
R325	1-216-025-11	RES-CHIP	100	5%	1/10W
R326	1-216-097-11	RES-CHIP	100K	5%	1/10W
R327	1-216-295-11	SHORT	0		
R328	1-216-065-00	RES-CHIP	4.7K	5%	1/10W
R381	1-216-065-00	RES-CHIP	4.7K	5%	1/10W
R382	1-216-073-00	RES-CHIP	10K	5%	1/10W
R383	1-216-001-00	METAL CHIP	10	5%	1/10W
R397	1-216-295-11	SHORT	0		

AUDIO **DISPLAY**

Ref. No.	Part No.	Description			Remark
R398	1-216-295-11	SHORT	0		
R399	1-216-295-11	SHORT	0		
R401	1-260-008-11	CARBON MELF	10K	2%	1/8W
R402	1-259-931-11	CARBON MELF	5.1K	2%	1/8W
R403	1-259-931-11	CARBON MELF	5.1K	2%	1/8W
R404	1-260-008-11	CARBON MELF	10K	2%	1/8W
R405	1-259-932-11	CARBON MELF	6.2K	2%	1/8W
R406	1-260-020-11	CARBON MELF	100K	2%	1/8W
R407	1-259-989-11	CARBON MELF	330	2%	1/8W
R408	1-259-989-11	CARBON MELF	330	2%	1/8W
R409	1-216-065-00	RES-CHIP	4.7K	5%	1/10W
R410	1-259-983-11	CARBON MELF	100	2%	1/8W
R411	1-259-983-11	CARBON MELF	100	2%	1/8W
R412	1-216-065-00	RES-CHIP	4.7K	5%	1/10W
R413	1-216-105-00	RES-CHIP	220K	5%	1/10W
R414	1-216-085-00	RES-CHIP	33K	5%	1/10W
R415	1-216-104-00	METAL CHIP	200K	5%	1/10W
R416	1-216-119-00	METAL CHIP	820K	5%	1/10W
R417	1-216-107-00	METAL CHIP	270K	5%	1/10W
R418	1-216-019-00	METAL CHIP	56	5%	1/10W
R419	1-216-065-00	RES-CHIP	4.7K	5%	1/10W
R421	1-260-008-11	CARBON MELF	10K	2%	1/8W
R422	1-259-931-11	CARBON MELF	5.1K	2%	1/8W
R423	1-259-931-11	CARBON MELF	5.1K	2%	1/8W
R424	1-260-008-11	CARBON MELF	10K	2%	1/8W
R425	1-259-932-11	CARBON MELF	6.2K	2%	1/8W
R426	1-260-020-11	CARBON MELF	100K	2%	1/8W
R427	1-259-989-11	CARBON MELF	330	2%	1/8W
R428	1-259-989-11	CARBON MELF	330	2%	1/8W
R429	1-216-063-00	RES-CHIP	3.9K	5%	1/10W
R430	1-259-983-11	CARBON MELF	100	2%	1/8W
R431	1-216-063-00	RES-CHIP	3.9K	5%	1/10W
R441	1-260-008-11	CARBON MELF	10K	2%	1/8W
R442	1-259-931-11	CARBON MELF	5.1K	2%	1/8W
R443	1-259-931-11	CARBON MELF	5.1K	2%	1/8W
R444	1-260-008-11	CARBON MELF	10K	2%	1/8W
R445	1-259-932-11	CARBON MELF	6.2K	2%	1/8W
R446	1-260-020-11	CARBON MELF	100K	2%	1/8W
R447	1-259-989-11	CARBON MELF	330	2%	1/8W
R448	1-259-989-11	CARBON MELF	330	2%	1/8W
R449	1-216-063-00	RES-CHIP	3.9K	5%	1/10W
R450	1-259-983-11	CARBON MELF	100	2%	1/8W
R451	1-216-063-00	RES-CHIP	3.9K	5%	1/10W
R461	1-249-427-11	CARBON	6.8K	5%	1/4W
R471	1-249-427-11	CARBON	6.8K	5%	1/4W
R481	1-249-427-11	CARBON	6.8K	5%	1/4W
R501	1-260-008-11	CARBON MELF	10K	2%	1/8W
R502	1-259-931-11	CARBON MELF	5.1K	2%	1/8W
R503	1-259-931-11	CARBON MELF	5.1K	2%	1/8W
R504	1-260-008-11	CARBON MELF	10K	2%	1/8W
R505	1-259-932-11	CARBON MELF	6.2K	2%	1/8W
R506	1-260-020-11	CARBON MELF	100K	2%	1/8W
R507	1-259-989-11	CARBON MELF	330	2%	1/8W
R508	1-259-989-11	CARBON MELF	330	2%	1/8W
R509	1-216-065-00	RES-CHIP	4.7K	5%	1/10W
R510	1-259-983-11	CARBON MELF	100	2%	1/8W
R511	1-259-983-11	CARBON MELF	100	2%	1/8W
R512	1-216-065-00	RES-CHIP	4.7K	5%	1/10W
R513	1-216-105-00	RES-CHIP	220K	5%	1/10W
R514	1-216-085-00	RES-CHIP	33K	5%	1/10W
R515	1-216-104-00	METAL CHIP	200K	5%	1/10W
R516	1-216-119-00	METAL CHIP	820K	5%	1/10W
R517	1-216-107-00	METAL CHIP	270K	5%	1/10W
R518	1-216-019-00	METAL CHIP	56	5%	1/10W
R519	1-216-065-00	RES-CHIP	4.7K	5%	1/10W
R521	1-260-008-11	CARBON MELF	10K	2%	1/8W
R522	1-259-931-11	CARBON MELF	5.1K	2%	1/8W
R523	1-259-931-11	CARBON MELF	5.1K	2%	1/8W
R524	1-260-008-11	CARBON MELF	10K	2%	1/8W
R525	1-259-932-11	CARBON MELF	6.2K	2%	1/8W
R526	1-260-020-11	CARBON MELF	100K	2%	1/8W
R527	1-259-989-11	CARBON MELF	330	2%	1/8W
R528	1-259-989-11	CARBON MELF	330	2%	1/8W
R529	1-216-063-00	RES-CHIP	3.9K	5%	1/10W
R530	1-259-983-11	CARBON MELF	100	2%	1/8W
R531	1-216-063-00	RES-CHIP	3.9K	5%	1/10W
R541	1-260-008-11	CARBON MELF	10K	2%	1/8W
R542	1-259-931-11	CARBON MELF	5.1K	2%	1/8W
R543	1-259-931-11	CARBON MELF	5.1K	2%	1/8W
R544	1-260-008-11	CARBON MELF	10K	2%	1/8W
R545	1-259-932-11	CARBON MELF	6.2K	2%	1/8W
R546	1-260-020-11	CARBON MELF	100K	2%	1/8W
R547	1-259-989-11	CARBON MELF	330	2%	1/8W
R548	1-259-989-11	CARBON MELF	330	2%	1/8W
R549	1-216-063-00	RES-CHIP	3.9K	5%	1/10W
R550	1-259-983-11	CARBON MELF	100	2%	1/8W
R551	1-216-063-00	RES-CHIP	3.9K	5%	1/10W
R561	1-249-427-11	CARBON	6.8K	5%	1/4W
R571	1-249-427-11	CARBON	6.8K	5%	1/4W
R581	1-249-427-11	CARBON	6.8K	5%	1/4W
		< VIBRATOR >			
X301	1-767-406-21	VIBRATOR, CRYSTAL (11.2896MHz)			
**********					
	A-4726-302-A	DISPLAY BOARD, COMPLETE			
		**********			
*	4-996-686-03	HOLDER (FL)			
		< CAPACITOR >			
C801	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C802	1-126-382-11	ELECT	100uF	20%	6.3V
C803	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C804	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C805	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C806	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C810	1-163-033-00	CERAMIC CHIP	0.022uF		50V
C811	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C812	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C813	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C814	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C815	1-163-109-00	CERAMIC CHIP	47PF	5%	50V

DISPLAY HEADPHONE JUNCTION

Ref. No.	Part No.	Description			Remark
		< CONNECTOR >			
CN801	1-770-643-11	CONNECTOR, FFC/FPC 12P			
CN811	1-750-194-11	CONNECTOR, BOARD TO BOARD 4P			
		< FLUORESCENT INDICATOR TUBE >			
FL801	1-518-749-11	INDICATOR TUBE, FLUORESCENT			
		< IC >			
IC801	8-759-829-13	IC MSM9202-06GS-BK			
		< LEAD >			
* LP801	1-695-474-41	LEAD (WITH CONNECTOR)			
		< TRANSISTOR >			
Q801	8-729-900-53	TRANSISTOR	DTC114EKA		
Q802	8-729-900-53	TRANSISTOR	DTC114EKA		
Q803	8-729-900-53	TRANSISTOR	DTC114EKA		
Q804	8-729-900-53	TRANSISTOR	DTC114EKA		
Q805	8-729-900-53	TRANSISTOR	DTC114EKA		
		< RESISTOR >			
R801	1-216-061-00	RES-CHIP	3.3K	5%	1/10W
R802	1-216-025-11	RES-CHIP	100	5%	1/10W
R803	1-216-025-11	RES-CHIP	100	5%	1/10W
R804	1-216-025-11	RES-CHIP	100	5%	1/10W
R805	1-216-025-11	RES-CHIP	100	5%	1/10W
R806	1-216-097-11	RES-CHIP	100K	5%	1/10W
R807	1-216-097-11	RES-CHIP	100K	5%	1/10W
R808	1-216-097-11	RES-CHIP	100K	5%	1/10W
R809	1-216-013-00	METAL CHIP	33	5%	1/10W
R810	1-216-013-00	METAL CHIP	33	5%	1/10W
R812	1-216-067-00	METAL CHIP	5.6K	5%	1/10W
R813	1-216-065-00	RES-CHIP	4.7K	5%	1/10W
R814	1-216-073-00	RES-CHIP	10K	5%	1/10W
R815	1-216-085-00	RES-CHIP	33K	5%	1/10W
R816	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R817	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R819	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R820	1-216-061-00	RES-CHIP	3.3K	5%	1/10W
R821	1-216-065-00	RES-CHIP	4.7K	5%	1/10W
R822	1-216-073-00	RES-CHIP	10K	5%	1/10W
R823	1-216-085-00	RES-CHIP	33K	5%	1/10W
		< SWITCH/ROTARY ENCODER >			
S804	1-570-101-51	SWITCH, KEY BOARD (SACD/CD)			
S805	1-570-101-51	SWITCH, KEY BOARD (MULTI/2CH)			
S806	1-771-349-21	SWITCH, KEYBOARD (⏏ OPEN/CLOSE)			
S807	1-771-349-21	SWITCH, KEYBOARD (▷)			
S808	1-771-349-21	SWITCH, KEYBOARD (▮▮)			
S809	1-771-349-21	SWITCH, KEYBOARD (■)			
S810	1-771-349-21	SWITCH, KEYBOARD (EX-CHANGE)			
S811	1-771-349-21	SWITCH, KEYBOARD (DISC SKIP)			
S830	1-476-100-11	ENCODER, ROTARY (⏮◁◁ AMS ▷▷⏭, PUSH ENTER)			
**********					
	1-682-033-11	HEADPHONE BOARD			
		**********			
		< CAPACITOR >			
C881	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C882	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C883	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
		< CONNECTOR >			
* CN881	1-568-941-11	PIN, CONNECTOR 3P			
		< NOISE FILTER >			
FB881	1-424-122-11	FILTER, NOISE			
FB882	1-424-122-11	FILTER, NOISE			
FB883	1-424-122-11	FILTER, NOISE			
		< JACK >			
J881	1-770-307-11	JACK (LARGE TYPE) (PHONES)			
		< COIL >			
L881	1-410-379-31	INDUCTOR	6.8uH		
L882	1-410-379-31	INDUCTOR	6.8uH		
L883	1-410-379-31	INDUCTOR	6.8uH		
		< VARIABLE RESISTOR >			
RV881	1-241-031-11	RES, VAR, CARBON 1K/1K (PHONES LEVEL)			
**********					
	1-676-246-11	JUNCTION BOARD			
		**********			
		< CAPACITOR >			
C10	1-124-589-11	ELECT	47uF	20%	16V
C11	1-161-494-00	CERAMIC	0.022uF		25V
		< CONNECTOR >			
CN11	1-573-911-11	PIN, CONNECTOR 13P			
CN13	1-506-481-11	PIN, CONNECTOR 2P			
* CN14	1-568-941-11	PIN, CONNECTOR 3P			
CN15	1-784-767-11	CONNECTOR, FFC 6P			
		< IC >			
IC11	8-759-356-03	IC BA6780			
		< RESISTOR >			
R21	1-249-429-11	CARBON	10K	5%	1/4W
R22	1-249-426-11	CARBON	5.6K	5%	1/4W
R23	1-249-425-11	CARBON	4.7K	5%	1/4W
R24	1-249-430-11	CARBON	12K	5%	1/4W
R25	1-249-382-11	CARBON	1.2	5%	1/6W
R26	1-249-382-11	CARBON	1.2	5%	1/6W
		< SWITCH >			
S11	1-771-836-11	SWITCH, LEVER (SLIDE) (OPEN/CLOSE DETECT)			
**********					

KEY | **LED** | **LOADING MOTOR** | **MAIN**

Ref. No.	Part No.	Description			Remark
	1-682-031-11	KEY BOARD			
		**********			
		< CONNECTOR >			
CN812	1-750-185-11	CONNECTOR, BOARD TO BOARD 4P			
		< RESISTOR >			
R861	1-216-061-00	RES-CHIP	3.3K	5%	1/10W
R862	1-216-065-00	RES-CHIP	4.7K	5%	1/10W
R863	1-216-073-00	RES-CHIP	10K	5%	1/10W
R864	1-216-085-00	RES-CHIP	33K	5%	1/10W
R865	1-216-061-00	RES-CHIP	3.3K	5%	1/10W
R866	1-216-065-00	RES-CHIP	4.7K	5%	1/10W
R867	1-216-073-00	RES-CHIP	10K	5%	1/10W
R868	1-216-085-00	RES-CHIP	33K	5%	1/10W
		< SWITCH >			
S812	1-771-349-21	SWITCH, KEYBOARD (TIME/TEXT)			
S813	1-771-349-21	SWITCH, KEYBOARD (MENU)			
S814	1-771-349-21	SWITCH, KEYBOARD (PROGRAM)			
S815	1-771-349-21	SWITCH, KEYBOARD (SHUFFLE)			
S816	1-771-349-21	SWITCH, KEYBOARD (CONTINUE)			
S817	1-771-349-21	SWITCH, KEYBOARD (DISC 5)			
S818	1-771-349-21	SWITCH, KEYBOARD (DISC 4)			
S819	1-771-349-21	SWITCH, KEYBOARD (DISC 3)			
S820	1-771-349-21	SWITCH, KEYBOARD (DISC 2)			
S821	1-771-349-21	SWITCH, KEYBOARD (DISC 1)			
**********					
	1-682-034-11	LED BOARD			
		**********			
		< CAPACITOR >			
C820	1-165-319-11	CERAMIC CHIP	0.1uF		50V
		< LED >			
D803	8-719-084-07	LED SEL5E20CTP15 (MULTI CHANNEL DECODING)			
		< RESISTOR >			
R818	1-216-021-00	METAL CHIP	68	5%	1/10W
**********					
	1-676-244-11	LOADING MOTOR BOARD			
		**********			
**********					
	A-4725-687-A	MAIN BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C501	1-125-837-11	CERAMIC CHIP	1uF	10%	6.3V
C502	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C506	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C509	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C510	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C511	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C513	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C516	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C517	1-125-822-11	TANTALUM	10uF	20%	10V
C518	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C519	1-125-837-11	CERAMIC CHIP	1uF	10%	6.3V
C520	1-126-395-11	ELECT	22uF	20%	16V
C521	1-162-965-11	CERAMIC CHIP	0.0015uF	10%	50V
C523	1-162-965-11	CERAMIC CHIP	0.0015uF	10%	50V
C525	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C526	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C527	1-164-739-11	CERAMIC CHIP	560PF	5%	50V
C528	1-125-822-11	TANTALUM	10uF	20%	10V
C529	1-164-739-11	CERAMIC CHIP	560PF	5%	50V
C530	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C531	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C532	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C533	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C534	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C535	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C536	1-125-891-11	CERAMIC CHIP	0.47uF	10%	10V
C539	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C541	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C542	1-125-891-11	CERAMIC CHIP	0.47uF	10%	10V
C543	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C544	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C545	1-125-822-11	TANTALUM	10uF	20%	10V
C547	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C548	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C549	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C550	1-115-412-11	CERAMIC CHIP	680PF	5%	25V
C551	1-125-891-11	CERAMIC CHIP	0.47uF	10%	10V
C553	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C554	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C555	1-115-412-11	CERAMIC CHIP	680PF	5%	25V
C556	1-125-822-11	TANTALUM	10uF	20%	10V
C558	1-115-412-11	CERAMIC CHIP	680PF	5%	25V
C559	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C560	1-162-965-11	CERAMIC CHIP	0.0015uF	10%	50V
C561	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C562	1-115-412-11	CERAMIC CHIP	680PF	5%	25V
C563	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C565	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C567	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C568	1-125-822-11	TANTALUM	10uF	20%	10V
C569	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C570	1-125-822-11	TANTALUM	10uF	20%	10V
C572	1-125-837-11	CERAMIC CHIP	1uF	10%	6.3V
C577	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C579	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C582	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C583	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C584	1-126-395-11	ELECT	22uF	20%	16V
C587	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C588	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C589	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C590	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C591	1-125-822-11	TANTALUM	10uF	20%	10V
C592	1-125-822-11	TANTALUM	10uF	20%	10V
C701	1-125-822-11	TANTALUM	10uF	20%	10V

MAIN

Ref. No.	Part No.	Description			Remark
C702	1-125-822-11	TANTALUM	10uF	20%	10V
C703	1-125-837-11	CERAMIC CHIP	1uF	10%	6.3V
C704	1-125-837-11	CERAMIC CHIP	1uF	10%	6.3V
C705	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C706	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C707	1-162-921-11	CERAMIC CHIP	33PF	5%	50V
C708	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C709	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C711	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C712	1-164-816-11	CERAMIC CHIP	220PF	2%	50V
C713	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C714	1-125-837-11	CERAMIC CHIP	1uF	10%	6.3V
C715	1-162-967-11	CERAMIC CHIP	0.0033uF	10%	50V
C716	1-125-891-11	CERAMIC CHIP	0.47uF	10%	10V
C717	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C718	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C720	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C721	1-125-837-11	CERAMIC CHIP	1uF	10%	6.3V
C722	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C723	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C724	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C725	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C726	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C727	1-125-822-11	TANTALUM	10uF	20%	10V
C728	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C729	1-125-822-11	TANTALUM	10uF	20%	10V
C730	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C731	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C740	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C741	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C742	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C743	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C744	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C745	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C746	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V
C747	1-125-837-11	CERAMIC CHIP	1uF	10%	6.3V
C752	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C760	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C761	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C762	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C763	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C764	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C765	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C766	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C767	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C768	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C769	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C770	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C771	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C772	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C773	1-125-891-11	CERAMIC CHIP	0.47uF	10%	10V
C774	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C775	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C776	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C777	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C778	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C779	1-125-822-11	TANTALUM	10uF	20%	10V
C780	1-125-822-11	TANTALUM	10uF	20%	10V
C781	1-125-822-11	TANTALUM	10uF	20%	10V
C790	1-126-204-11	ELECT CHIP	47uF	20%	16V
C791	1-126-206-11	ELECT CHIP	100uF	20%	6.3V
C792	1-126-206-11	ELECT CHIP	100uF	20%	6.3V
C793	1-126-246-11	ELECT CHIP	220uF	20%	4V
C794	1-126-246-11	ELECT CHIP	220uF	20%	4V
C795	1-126-206-11	ELECT CHIP	100uF	20%	6.3V
C796	1-115-156-11	CERAMIC CHIP	1uF		10V
C797	1-126-246-11	ELECT CHIP	220uF	20%	4V
C798	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C799	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C800	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C802	1-125-822-11	TANTALUM	10uF	20%	10V
C803	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C804	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C807	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C808	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C809	1-125-822-11	TANTALUM	10uF	20%	10V
C810	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C811	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C812	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C813	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C815	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C817	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C818	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C819	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C837	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C838	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C839	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C840	1-125-822-11	TANTALUM	10uF	20%	10V
C841	1-125-822-11	TANTALUM	10uF	20%	10V
C842	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C843	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C846	1-126-206-11	ELECT CHIP	100uF	20%	6.3V
C847	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C848	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C849	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C851	1-162-945-11	CERAMIC CHIP	22PF	5%	50V
C852	1-162-945-11	CERAMIC CHIP	22PF	5%	50V
C854	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C855	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C856	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C857	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C858	1-126-206-11	ELECT CHIP	100uF	20%	6.3V
C860	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C861	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C865	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C866	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C867	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C870	1-164-677-11	CERAMIC CHIP	0.033uF	10%	16V
C871	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C901	1-125-822-11	TANTALUM	10uF	20%	10V
C902	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C903	1-125-822-11	TANTALUM	10uF	20%	10V
C904	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C905	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C906	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V

Ref. No.	Part No.	Description			Remark
C907	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C908	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C909	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C910	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C911	1-125-822-11	TANTALUM	10uF	20%	10V
C912	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C913	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C914	1-125-822-11	TANTALUM	10uF	20%	10V
C915	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C916	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C917	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C918	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C920	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C921	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C922	1-125-837-11	CERAMIC CHIP	1uF	10%	6.3V
C923	1-125-837-11	CERAMIC CHIP	1uF	10%	6.3V
C924	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C929	1-125-822-11	TANTALUM	10uF	20%	10V
C930	1-125-837-11	CERAMIC CHIP	1uF	10%	6.3V
C933	1-125-837-11	CERAMIC CHIP	1uF	10%	6.3V
C934	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C935	1-125-837-11	CERAMIC CHIP	1uF	10%	6.3V
C936	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C937	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C938	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C939	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C940	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C941	1-125-837-11	CERAMIC CHIP	1uF	10%	6.3V
C942	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C943	1-125-837-11	CERAMIC CHIP	1uF	10%	6.3V
C944	1-125-837-11	CERAMIC CHIP	1uF	10%	6.3V
C945	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C946	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C947	1-125-822-11	TANTALUM	10uF	20%	10V
C948	1-107-682-11	CERAMIC CHIP	1uF	10%	16V
C949	1-107-682-11	CERAMIC CHIP	1uF	10%	16V
C951	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C952	1-107-682-11	CERAMIC CHIP	1uF	10%	16V
C953	1-107-682-11	CERAMIC CHIP	1uF	10%	16V
C960	1-128-992-21	ELECT CHIP	47uF	20%	25V
C962	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C963	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
		< CONNECTOR >			
CN701	1-778-691-11	CONNECTOR, FFC/FPC 19P			
CN702	1-778-691-11	CONNECTOR, FFC/FPC 19P			
CN704	1-815-348-11	PIN, CONNECTOR (PC BOARD) 6P			
CN705	1-794-804-11	PIN, CONNECTOR (PC BOARD) 13P			
CN706	1-784-371-21	CONNECTOR, FFC/FPC 12P			
CN707	1-815-347-11	PIN, CONNECTOR (PC BOARD) 12P			
CN708	1-784-386-21	CONNECTOR, FFC/FPC 30P			
CN709	1-793-687-11	PIN, CONNECTOR (1.5mm) (SMD) 5P			
		< DIODE >			
D903	8-719-049-09	DIODE 1SS367-T3SONY			
D904	8-719-049-09	DIODE 1SS367-T3SONY			

Ref. No.	Part No.	Description		Remark
		< FERRITE BEAD >		
FB701	1-469-835-21	FERRITE	0uH	
FB703	1-500-283-11	FERRITE	0uH	
FB704	1-500-283-11	FERRITE	0uH	
FB705	1-469-835-21	FERRITE	0uH	
FB706	1-469-835-21	FERRITE	0uH	
FB707	1-500-283-11	FERRITE	0uH	
FB708	1-500-283-11	FERRITE	0uH	
FB709	1-500-283-11	FERRITE	0uH	
FB710	1-500-283-11	FERRITE	0uH	
FB751	1-500-283-11	FERRITE	0uH	
FB752	1-500-283-11	FERRITE	0uH	
FB753	1-500-283-11	FERRITE	0uH	
FB754	1-500-283-11	FERRITE	0uH	
FB755	1-500-283-11	FERRITE	0uH	
FB756	1-500-283-11	FERRITE	0uH	
FB757	1-500-283-11	FERRITE	0uH	
FB758	1-469-835-21	FERRITE	0uH	
FB759	1-469-835-21	FERRITE	0uH	
FB760	1-469-835-21	FERRITE	0uH	
FB761	1-469-835-21	FERRITE	0uH	
FB801	1-500-283-11	FERRITE	0uH	
FB802	1-500-283-11	FERRITE	0uH	
FB803	1-500-283-11	FERRITE	0uH	
FB804	1-500-283-11	FERRITE	0uH	
		< FILTER >		
FL501	1-234-177-21	FILTER, CHIP EMI		
FL502	1-234-177-21	FILTER, CHIP EMI		
FL701	1-234-177-21	FILTER, CHIP EMI		
FL702	1-234-177-21	FILTER, CHIP EMI		
FL703	1-234-177-21	FILTER, CHIP EMI		
FL704	1-234-177-21	FILTER, CHIP EMI		
FL705	1-234-177-21	FILTER, CHIP EMI		
FL706	1-234-177-21	FILTER, CHIP EMI		
FL750	1-233-893-21	FILTER, CHIP EMI		
FL751	1-234-177-21	FILTER, CHIP EMI		
FL752	1-234-177-21	FILTER, CHIP EMI		
FL753	1-234-177-21	FILTER, CHIP EMI		
FL754	1-234-177-21	FILTER, CHIP EMI		
FL807	1-234-177-21	FILTER, CHIP EMI		
FL808	1-234-177-21	FILTER, CHIP EMI		
FL810	1-234-177-21	FILTER, CHIP EMI		
FL811	1-234-177-21	FILTER, CHIP EMI		
FL812	1-234-177-21	FILTER, CHIP EMI		
FL813	1-234-177-21	FILTER, CHIP EMI		
FL901	1-234-177-21	FILTER, CHIP EMI		
FL903	1-233-893-21	FILTER, CHIP EMI		
FL904	1-234-177-21	FILTER, CHIP EMI		
FL905	1-234-177-21	FILTER, CHIP EMI		
FL906	1-234-177-21	FILTER, CHIP EMI		
FL907	1-234-177-21	FILTER, CHIP EMI		
FL908	1-234-177-21	FILTER, CHIP EMI		
FL909	1-234-177-21	FILTER, CHIP EMI		
FL910	1-234-177-21	FILTER, CHIP EMI		

MAIN

Ref. No.	Part No.	Description			Remark
		< IC >			
IC502	8-759-567-26	IC BA5983FP-E2			
IC503	8-759-701-40	IC NJM3404AM-T1			
IC504	8-759-473-95	IC uPC2905T-E1			
IC509	8-752-408-73	IC CXD3068Q			
IC512	8-759-490-71	IC BA5912AFP-YE2			
IC701	8-752-414-94	IC CXD1882R-1			
IC702	8-759-637-50	IC TA48M025F (TE16L)			
IC703	8-759-701-40	IC NJM3404AM-T1			
IC706	8-759-543-83	IC KM416V1204CT-L6			
IC708	8-759-701-40	IC NJM3404AM-T1			
IC801	8-752-407-50	IC CXD2752R			
IC802	8-759-549-25	IC SN74LVU04APWR			
IC803	8-759-833-14	IC CXD9647R			
IC808	8-759-573-19	IC MSM56V16160D-10TS-K			
IC811	8-759-549-25	IC SN74LVU04APWR			
IC812	8-759-549-15	IC SN74LV245APWR			
IC813	8-759-549-15	IC SN74LV245APWR			
IC814	8-759-649-33	IC SN74AHCT1G08DCKR			
IC901	8-752-925-62	IC CXP974096-001R			
IC902	8-752-392-03	IC CXD1095BR			
IC903	8-759-643-29	IC BR24C64F-E2			
IC905	8-759-636-64	IC M51957BFP-600C			
		< COIL >			
L802	1-410-369-11	INDUCTOR CHIP	1uH		
L803	1-410-369-11	INDUCTOR CHIP	1uH		
		< TRANSISTOR >			
Q701	1-801-806-11	TRANSISTOR	DTC144EKA		
Q702	8-729-901-47	TRANSISTOR	DTA143EKA		
Q703	8-729-901-47	TRANSISTOR	DTA143EKA		
Q704	8-729-901-47	TRANSISTOR	DTA143EKA		
		< RESISTOR >			
R501	1-216-833-11	METAL CHIP	10K	5%	1/16W
R502	1-216-833-11	METAL CHIP	10K	5%	1/16W
R503	1-216-864-11	METAL CHIP	0	5%	1/16W
R505	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R506	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R507	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R508	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R509	1-216-833-11	METAL CHIP	10K	5%	1/16W
R510	1-218-852-11	RES-CHIP	1.6K	5%	1/16W
R511	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R512	1-216-864-11	METAL CHIP	0	5%	1/16W
R513	1-216-797-11	METAL CHIP	10	5%	1/16W
R515	1-216-864-11	METAL CHIP	0	5%	1/16W
R516	1-216-797-11	METAL CHIP	10	5%	1/16W
R518	1-216-797-11	METAL CHIP	10	5%	1/16W
R520	1-216-864-11	METAL CHIP	0	5%	1/16W
R522	1-216-864-11	METAL CHIP	0	5%	1/16W
R523	1-216-797-11	METAL CHIP	10	5%	1/16W
R524	1-216-833-11	METAL CHIP	10K	5%	1/16W
R529	1-218-748-11	METAL CHIP	220K	0.5%	1/16W
R530	1-218-748-11	METAL CHIP	220K	0.5%	1/16W
R534	1-218-704-11	METAL CHIP	3.3K	0.5%	1/16W
R538	1-218-740-11	METAL CHIP	100K	0.5%	1/16W
R540	1-216-833-11	METAL CHIP	10K	5%	1/16W
R541	1-218-740-11	METAL CHIP	100K	0.5%	1/16W
R544	1-218-740-11	METAL CHIP	100K	0.5%	1/16W
R545	1-218-740-11	METAL CHIP	100K	0.5%	1/16W
R549	1-216-864-11	METAL CHIP	0	5%	1/16W
R554	1-216-826-11	METAL CHIP	2.7K	5%	1/16W
R555	1-218-704-11	METAL CHIP	3.3K	0.5%	1/16W
R556	1-216-826-11	METAL CHIP	2.7K	5%	1/16W
R558	1-216-841-11	METAL CHIP	47K	5%	1/16W
R559	1-216-797-11	METAL CHIP	10	5%	1/16W
R560	1-216-821-11	METAL CHIP	1K	5%	1/16W
R561	1-216-821-11	METAL CHIP	1K	5%	1/16W
R562	1-216-821-11	METAL CHIP	1K	5%	1/16W
R563	1-216-797-11	METAL CHIP	10	5%	1/16W
R565	1-216-833-11	METAL CHIP	10K	5%	1/16W
R568	1-216-833-11	METAL CHIP	10K	5%	1/16W
R572	1-216-797-11	METAL CHIP	10	5%	1/16W
R573	1-216-797-11	METAL CHIP	10	5%	1/16W
R576	1-216-864-11	METAL CHIP	0	5%	1/16W
R577	1-216-864-11	METAL CHIP	0	5%	1/16W
R578	1-216-864-11	METAL CHIP	0	5%	1/16W
R581	1-216-833-11	METAL CHIP	10K	5%	1/16W
R582	1-216-833-11	METAL CHIP	10K	5%	1/16W
R584	1-218-728-11	METAL CHIP	33K	0.5%	1/16W
R586	1-216-864-11	METAL CHIP	0	5%	1/16W
R588	1-218-716-11	METAL CHIP	10K	0.5%	1/16W
R589	1-218-728-11	METAL CHIP	33K	0.5%	1/16W
R590	1-218-716-11	METAL CHIP	10K	0.5%	1/16W
R591	1-218-702-11	METAL CHIP	2.7K	0.5%	1/16W
R592	1-218-708-11	METAL CHIP	4.7K	0.5%	1/16W
R593	1-218-740-11	METAL CHIP	100K	0.5%	1/16W
R594	1-218-728-11	METAL CHIP	33K	0.5%	1/16W
R595	1-218-708-11	METAL CHIP	4.7K	0.5%	1/16W
R596	1-216-864-11	METAL CHIP	0	5%	1/16W
R597	1-218-716-11	METAL CHIP	10K	0.5%	1/16W
R598	1-216-864-11	METAL CHIP	0	5%	1/16W
R599	1-218-702-11	METAL CHIP	2.7K	0.5%	1/16W
R601	1-218-724-11	METAL CHIP	22K	0.5%	1/16W
R602	1-218-708-11	METAL CHIP	4.7K	0.5%	1/16W
R603	1-218-704-11	METAL CHIP	3.3K	0.5%	1/16W
R604	1-218-692-11	METAL CHIP	1K	0.5%	1/16W
R606	1-216-831-11	METAL CHIP	6.8K	5%	1/16W
R607	1-218-708-11	METAL CHIP	4.7K	0.5%	1/16W
R608	1-218-716-11	METAL CHIP	10K	0.5%	1/16W
R611	1-218-724-11	METAL CHIP	22K	0.5%	1/16W
R613	1-216-857-11	METAL CHIP	1M	5%	1/16W
R617	1-216-857-11	METAL CHIP	1M	5%	1/16W
R618	1-218-911-11	METAL CHIP	470K	0.5%	1/16W
R619	1-216-864-11	METAL CHIP	0	5%	1/16W
R621	1-216-864-11	METAL CHIP	0	5%	1/16W
R625	1-216-815-11	METAL CHIP	330	5%	1/16W
R626	1-216-864-11	METAL CHIP	0	5%	1/16W
R627	1-216-864-11	METAL CHIP	0	5%	1/16W
R628	1-216-864-11	METAL CHIP	0	5%	1/16W
R632	1-216-833-11	METAL CHIP	10K	5%	1/16W
R634	1-216-831-11	METAL CHIP	6.8K	5%	1/16W
R635	1-216-864-11	METAL CHIP	0	5%	1/16W

Ref. No.	Part No.	Description			Remark
R642	1-216-839-11	METAL CHIP	33K	5%	1/16W
R644	1-216-797-11	METAL CHIP	10	5%	1/16W
R645	1-216-797-11	METAL CHIP	10	5%	1/16W
R654	1-216-821-11	METAL CHIP	1K	5%	1/16W
R655	1-216-821-11	METAL CHIP	1K	5%	1/16W
R656	1-216-821-11	METAL CHIP	1K	5%	1/16W
R657	1-218-700-11	METAL CHIP	2.2K	0.5%	1/16W
R658	1-218-700-11	METAL CHIP	2.2K	0.5%	1/16W
R659	1-218-700-11	METAL CHIP	2.2K	0.5%	1/16W
R660	1-218-700-11	METAL CHIP	2.2K	0.5%	1/16W
R661	1-216-296-11	SHORT	0		
R701	1-218-748-11	METAL CHIP	220K	0.5%	1/16W
R702	1-218-740-11	METAL CHIP	100K	0.5%	1/16W
R703	1-218-740-11	METAL CHIP	100K	0.5%	1/16W
R704	1-218-748-11	METAL CHIP	220K	0.5%	1/16W
R705	1-218-740-11	METAL CHIP	100K	0.5%	1/16W
R706	1-218-740-11	METAL CHIP	100K	0.5%	1/16W
R707	1-218-668-11	METAL CHIP	100	0.5%	1/16W
R708	1-216-857-11	METAL CHIP	1M	5%	1/16W
R709	1-218-736-11	METAL CHIP	68K	0.5%	1/16W
R710	1-218-716-11	METAL CHIP	10K	0.5%	1/16W
R711	1-218-700-11	METAL CHIP	2.2K	0.5%	1/16W
R712	1-218-716-11	METAL CHIP	10K	0.5%	1/16W
R713	1-218-716-11	METAL CHIP	10K	0.5%	1/16W
R714	1-218-716-11	METAL CHIP	10K	0.5%	1/16W
R716	1-218-668-11	METAL CHIP	100	0.5%	1/16W
R717	1-218-740-11	METAL CHIP	100K	0.5%	1/16W
R718	1-218-716-11	METAL CHIP	10K	0.5%	1/16W
R719	1-218-692-11	METAL CHIP	1K	0.5%	1/16W
R720	1-216-821-11	METAL CHIP	1K	5%	1/16W
R721	1-218-728-11	METAL CHIP	33K	0.5%	1/16W
R724	1-218-692-11	METAL CHIP	1K	0.5%	1/16W
R725	1-216-824-11	METAL CHIP	1.8K	5%	1/16W
R726	1-218-740-11	METAL CHIP	100K	0.5%	1/16W
R727	1-218-704-11	METAL CHIP	3.3K	0.5%	1/16W
R728	1-218-716-11	METAL CHIP	10K	0.5%	1/16W
R729	1-216-864-11	METAL CHIP	0	5%	1/16W
R730	1-216-801-11	METAL CHIP	22	5%	1/16W
R731	1-216-801-11	METAL CHIP	22	5%	1/16W
R732	1-216-833-11	METAL CHIP	10K	5%	1/16W
R733	1-216-833-11	METAL CHIP	10K	5%	1/16W
R734	1-216-833-11	METAL CHIP	10K	5%	1/16W
R735	1-216-833-11	METAL CHIP	10K	5%	1/16W
R736	1-216-833-11	METAL CHIP	10K	5%	1/16W
R737	1-216-833-11	METAL CHIP	10K	5%	1/16W
R738	1-216-833-11	METAL CHIP	10K	5%	1/16W
R740	1-216-833-11	METAL CHIP	10K	5%	1/16W
R741	1-216-801-11	METAL CHIP	22	5%	1/16W
R742	1-216-801-11	METAL CHIP	22	5%	1/16W
R743	1-216-801-11	METAL CHIP	22	5%	1/16W
R744	1-216-801-11	METAL CHIP	22	5%	1/16W
R745	1-216-841-11	METAL CHIP	47K	5%	1/16W
R746	1-216-841-11	METAL CHIP	47K	5%	1/16W
R750	1-216-833-11	METAL CHIP	10K	5%	1/16W
R755	1-216-864-11	METAL CHIP	0	5%	1/16W
R756	1-216-864-11	METAL CHIP	0	5%	1/16W
R757	1-216-864-11	METAL CHIP	0	5%	1/16W
R758	1-216-864-11	METAL CHIP	0	5%	1/16W
R759	1-216-864-11	METAL CHIP	0	5%	1/16W
R761	1-218-700-11	METAL CHIP	2.2K	0.5%	1/16W
R762	1-218-724-11	METAL CHIP	22K	0.5%	1/16W
R763	1-218-714-11	METAL CHIP	8.2K	0.5%	1/16W
R764	1-216-857-11	METAL CHIP	1M	5%	1/16W
R765	1-218-724-11	METAL CHIP	22K	0.5%	1/16W
R766	1-216-864-11	METAL CHIP	0	5%	1/16W
R767	1-218-732-11	METAL CHIP	47K	0.5%	1/16W
R768	1-216-809-11	METAL CHIP	100	5%	1/16W
R769	1-218-700-11	METAL CHIP	2.2K	0.5%	1/16W
R770	1-216-864-11	METAL CHIP	0	5%	1/16W
R772	1-216-801-11	METAL CHIP	22	5%	1/16W
R776	1-216-864-11	METAL CHIP	0	5%	1/16W
R777	1-216-864-11	METAL CHIP	0	5%	1/16W
R778	1-218-740-11	METAL CHIP	100K	0.5%	1/16W
R780	1-216-864-11	METAL CHIP	0	5%	1/16W
R781	1-216-864-11	METAL CHIP	0	5%	1/16W
R800	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R801	1-216-864-11	METAL CHIP	0	5%	1/16W
R803	1-216-864-11	METAL CHIP	0	5%	1/16W
R804	1-216-833-11	METAL CHIP	10K	5%	1/16W
R805	1-216-833-11	METAL CHIP	10K	5%	1/16W
R806	1-216-833-11	METAL CHIP	10K	5%	1/16W
R807	1-216-833-11	METAL CHIP	10K	5%	1/16W
R808	1-216-813-11	METAL CHIP	220	5%	1/16W
R809	1-216-809-11	METAL CHIP	100	5%	1/16W
R810	1-216-864-11	METAL CHIP	0	5%	1/16W
R811	1-216-864-11	METAL CHIP	0	5%	1/16W
R812	1-216-864-11	METAL CHIP	0	5%	1/16W
R820	1-218-712-11	METAL CHIP	6.8K	0.5%	1/16W
R821	1-216-801-11	METAL CHIP	22	5%	1/16W
R822	1-216-801-11	METAL CHIP	22	5%	1/16W
R824	1-216-864-11	METAL CHIP	0	5%	1/16W
R826	1-216-801-11	METAL CHIP	22	5%	1/16W
R827	1-216-809-11	METAL CHIP	100	5%	1/16W
R828	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R829	1-216-809-11	METAL CHIP	100	5%	1/16W
R830	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R831	1-216-839-11	METAL CHIP	33K	5%	1/16W
R839	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R842	1-216-833-11	METAL CHIP	10K	5%	1/16W
R847	1-216-801-11	METAL CHIP	22	5%	1/16W
R848	1-216-801-11	METAL CHIP	22	5%	1/16W
R849	1-216-801-11	METAL CHIP	22	5%	1/16W
R850	1-216-801-11	METAL CHIP	22	5%	1/16W
R851	1-216-864-11	METAL CHIP	0	5%	1/16W
R852	1-216-864-11	METAL CHIP	0	5%	1/16W
R853	1-216-813-11	METAL CHIP	220	5%	1/16W
R854	1-216-813-11	METAL CHIP	220	5%	1/16W
R855	1-216-813-11	METAL CHIP	220	5%	1/16W
R858	1-216-819-11	METAL CHIP	680	5%	1/16W
R859	1-216-819-11	METAL CHIP	680	5%	1/16W
R860	1-216-813-11	METAL CHIP	220	5%	1/16W
R865	1-216-864-11	METAL CHIP	0	5%	1/16W
R866	1-216-864-11	METAL CHIP	0	5%	1/16W
R867	1-216-864-11	METAL CHIP	0	5%	1/16W
R870	1-218-716-11	METAL CHIP	10K	0.5%	1/16W

MAIN

Ref. No.	Part No.	Description			Remark
R871	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R872	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R873	1-216-809-11	METAL CHIP	100	5%	1/16W
R875	1-216-830-11	METAL CHIP	5.6K	5%	1/16W
R876	1-216-864-11	METAL CHIP	0	5%	1/16W
R877	1-216-833-11	METAL CHIP	10K	5%	1/16W
R878	1-216-833-11	METAL CHIP	10K	5%	1/16W
R881	1-216-833-11	METAL CHIP	10K	5%	1/16W
R882	1-216-833-11	METAL CHIP	10K	5%	1/16W
R883	1-216-833-11	METAL CHIP	10K	5%	1/16W
R884	1-216-833-11	METAL CHIP	10K	5%	1/16W
R885	1-216-833-11	METAL CHIP	10K	5%	1/16W
R886	1-216-833-11	METAL CHIP	10K	5%	1/16W
R887	1-216-833-11	METAL CHIP	10K	5%	1/16W
R888	1-216-833-11	METAL CHIP	10K	5%	1/16W
R889	1-216-833-11	METAL CHIP	10K	5%	1/16W
R890	1-216-801-11	METAL CHIP	22	5%	1/16W
R891	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R892	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R893	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R894	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R900	1-216-809-11	METAL CHIP	100	5%	1/16W
R901	1-216-801-11	METAL CHIP	22	5%	1/16W
R902	1-216-801-11	METAL CHIP	22	5%	1/16W
R903	1-216-801-11	METAL CHIP	22	5%	1/16W
R904	1-216-801-11	METAL CHIP	22	5%	1/16W
R905	1-216-801-11	METAL CHIP	22	5%	1/16W
R906	1-216-801-11	METAL CHIP	22	5%	1/16W
R907	1-216-801-11	METAL CHIP	22	5%	1/16W
R908	1-216-801-11	METAL CHIP	22	5%	1/16W
R910	1-216-864-11	METAL CHIP	0	5%	1/16W
R912	1-216-833-11	METAL CHIP	10K	5%	1/16W
R913	1-216-833-11	METAL CHIP	10K	5%	1/16W
R914	1-216-801-11	METAL CHIP	22	5%	1/16W
R915	1-216-809-11	METAL CHIP	100	5%	1/16W
R916	1-216-821-11	METAL CHIP	1K	5%	1/16W
R917	1-216-821-11	METAL CHIP	1K	5%	1/16W
R918	1-216-789-11	METAL CHIP	2.2	5%	1/16W
R919	1-216-801-11	METAL CHIP	22	5%	1/16W
R920	1-216-809-11	METAL CHIP	100	5%	1/16W
R921	1-216-809-11	METAL CHIP	100	5%	1/16W
R922	1-216-801-11	METAL CHIP	22	5%	1/16W
R923	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R924	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R925	1-216-809-11	METAL CHIP	100	5%	1/16W
R926	1-216-809-11	METAL CHIP	100	5%	1/16W
R927	1-216-801-11	METAL CHIP	22	5%	1/16W
R928	1-216-809-11	METAL CHIP	100	5%	1/16W
R929	1-216-809-11	METAL CHIP	100	5%	1/16W
R930	1-216-809-11	METAL CHIP	100	5%	1/16W
R931	1-216-809-11	METAL CHIP	100	5%	1/16W
R932	1-216-809-11	METAL CHIP	100	5%	1/16W
R934	1-216-833-11	METAL CHIP	10K	5%	1/16W
R935	1-216-805-11	METAL CHIP	47	5%	1/16W
R937	1-216-801-11	METAL CHIP	22	5%	1/16W
R938	1-216-801-11	METAL CHIP	22	5%	1/16W
R939	1-216-809-11	METAL CHIP	100	5%	1/16W
R940	1-216-809-11	METAL CHIP	100	5%	1/16W
R941	1-216-809-11	METAL CHIP	100	5%	1/16W
R942	1-216-809-11	METAL CHIP	100	5%	1/16W
R943	1-216-809-11	METAL CHIP	100	5%	1/16W
R944	1-216-833-11	METAL CHIP	10K	5%	1/16W
R945	1-216-833-11	METAL CHIP	10K	5%	1/16W
R946	1-216-833-11	METAL CHIP	10K	5%	1/16W
R947	1-216-864-11	METAL CHIP	0	5%	1/16W
R948	1-218-720-11	METAL CHIP	15K	0.5%	1/16W
R949	1-218-720-11	METAL CHIP	15K	0.5%	1/16W
R950	1-216-833-11	METAL CHIP	10K	5%	1/16W
R951	1-216-821-11	METAL CHIP	1K	5%	1/16W
R952	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R953	1-216-833-11	METAL CHIP	10K	5%	1/16W
R954	1-216-833-11	METAL CHIP	10K	5%	1/16W
R958	1-216-864-11	METAL CHIP	0	5%	1/16W
R959	1-216-833-11	METAL CHIP	10K	5%	1/16W
R960	1-216-833-11	METAL CHIP	10K	5%	1/16W
R961	1-216-821-11	METAL CHIP	1K	5%	1/16W
R962	1-216-833-11	METAL CHIP	10K	5%	1/16W
R964	1-218-704-11	METAL CHIP	3.3K	0.5%	1/16W
R969	1-216-833-11	METAL CHIP	10K	5%	1/16W
R970	1-216-864-11	METAL CHIP	0	5%	1/16W
R971	1-216-809-11	METAL CHIP	100	5%	1/16W
R973	1-216-864-11	METAL CHIP	0	5%	1/16W
R975	1-216-833-11	METAL CHIP	10K	5%	1/16W
R976	1-216-833-11	METAL CHIP	10K	5%	1/16W
R979	1-216-833-11	METAL CHIP	10K	5%	1/16W
R980	1-216-833-11	METAL CHIP	10K	5%	1/16W
R981	1-216-833-11	METAL CHIP	10K	5%	1/16W
R982	1-216-801-11	METAL CHIP	22	5%	1/16W
R983	1-216-801-11	METAL CHIP	22	5%	1/16W
R990	1-216-801-11	METAL CHIP	22	5%	1/16W
R991	1-216-864-11	METAL CHIP	0	5%	1/16W
R992	1-216-864-11	METAL CHIP	0	5%	1/16W
R993	1-216-833-11	METAL CHIP	10K	5%	1/16W
R994	1-216-833-11	METAL CHIP	10K	5%	1/16W
R996	1-216-833-11	METAL CHIP	10K	5%	1/16W
R997	1-216-833-11	METAL CHIP	10K	5%	1/16W
R998	1-216-864-11	METAL CHIP	0	5%	1/16W
R1000	1-216-801-11	METAL CHIP	22	5%	1/16W
R1005	1-216-801-11	METAL CHIP	22	5%	1/16W
R1006	1-216-801-11	METAL CHIP	22	5%	1/16W
R1007	1-216-801-11	METAL CHIP	22	5%	1/16W
R1008	1-216-801-11	METAL CHIP	22	5%	1/16W
R1009	1-216-801-11	METAL CHIP	22	5%	1/16W
R1010	1-216-801-11	METAL CHIP	22	5%	1/16W
R1011	1-216-809-11	METAL CHIP	100	5%	1/16W
R1012	1-216-809-11	METAL CHIP	100	5%	1/16W
R1013	1-216-805-11	METAL CHIP	47	5%	1/16W
R1014	1-216-809-11	METAL CHIP	100	5%	1/16W
R1015	1-216-801-11	METAL CHIP	22	5%	1/16W
R1018	1-216-801-11	METAL CHIP	22	5%	1/16W
R1019	1-216-864-11	METAL CHIP	0	5%	1/16W
R1020	1-216-833-11	METAL CHIP	10K	5%	1/16W
R1021	1-216-833-11	METAL CHIP	10K	5%	1/16W
R1022	1-216-832-11	METAL CHIP	8.2K	5%	1/16W
R1024	1-216-864-11	METAL CHIP	0	5%	1/16W

Ref. No.	Part No.	Description			Remark
R1025	1-216-864-11	METAL CHIP	0	5%	1/16W
R1026	1-216-833-11	METAL CHIP	10K	5%	1/16W
R1027	1-216-843-11	METAL CHIP	68K	5%	1/16W
R1028	1-216-801-11	METAL CHIP	22	5%	1/16W
R1029	1-216-832-11	METAL CHIP	8.2K	5%	1/16W
R1051	1-216-864-11	METAL CHIP	0	5%	1/16W
		< SWITCH >			
S902	1-771-449-11	SWITCH, SLIDE (FLASH WRITING)			
		< VIBRATOR >			
X901	1-781-945-21	VIBRATOR, CERAMIC (20MHz)			
**********					
	A-4726-309-A	POWER BOARD, COMPLETE			
		**********			
	7-685-871-01	SCREW +BVTT 3X6 (S)			
		< CAPACITOR >			
C901	1-126-943-11	ELECT	2200uF	20%	25V
C902	1-126-964-11	ELECT	10uF	20%	50V
C904	1-128-552-51	ELECT	47uF	20%	63V
C905	1-126-937-11	ELECT	4700uF	20%	16V
C907	1-136-820-11	FILM	0.01uF	5%	100V
C908	1-126-937-11	ELECT	4700uF	20%	16V
C909	1-136-850-11	MYLAR	0.1uF	5%	63V
C910	1-128-548-11	ELECT	4700uF	20%	25V
C911	1-128-548-11	ELECT	4700uF	20%	25V
C912	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C913	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C914	1-128-547-11	ELECT	6800uF	20%	16V
C915	1-136-820-11	FILM	0.01uF	5%	100V
C917	1-135-697-11	ELECT	6800uF		16V
C918	1-128-547-11	ELECT	6800uF	20%	16V
C919	1-135-696-11	ELECT	4700uF		16V
C921	1-125-780-21	ELECT	470uF	20%	16V
C922	1-164-695-11	CERAMIC CHIP	0.0022uF	5%	50V
C923	1-164-695-11	CERAMIC CHIP	0.0022uF	5%	50V
C924	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C926	1-125-780-21	ELECT	470uF	20%	16V
C927	1-125-780-21	ELECT	470uF	20%	16V
C930	1-135-687-51	ELECT	3300uF		25V
C931	1-135-687-51	ELECT	3300uF		25V
C935	1-136-820-11	FILM	0.01uF	5%	100V
C936	1-136-820-11	FILM	0.01uF	5%	100V
C937	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C938	1-126-963-11	ELECT	4.7uF	20%	50V
C945	1-164-695-11	CERAMIC CHIP	0.0022uF	5%	50V
C946	1-164-695-11	CERAMIC CHIP	0.0022uF	5%	50V
C947	1-164-695-11	CERAMIC CHIP	0.0022uF	5%	50V
C948	1-164-695-11	CERAMIC CHIP	0.0022uF	5%	50V
C960	1-126-947-11	ELECT	47uF	20%	25V
C961	1-163-033-00	CERAMIC CHIP	0.022uF		50V
		< DIODE >			
D902	8-719-210-33	DIODE EC10DS2			

Ref. No.	Part No.	Description	Remark
D903	8-719-977-81	DIODE DTZ33B	
D906	8-719-210-33	DIODE EC10DS2	
D907	8-719-210-33	DIODE EC10DS2	
D908	8-719-210-33	DIODE EC10DS2	
D909	8-719-210-33	DIODE EC10DS2	
D910	8-719-210-33	DIODE EC10DS2	
D911	8-719-210-33	DIODE EC10DS2	
D912	8-719-210-33	DIODE EC10DS2	
D913	8-719-210-33	DIODE EC10DS2	
D918	8-719-210-39	DIODE EC10QS-04	
D920	8-719-210-39	DIODE EC10QS-04	
D921	8-719-210-39	DIODE EC10QS-04	
D922	8-719-210-39	DIODE EC10QS-04	
D923	8-719-210-39	DIODE EC10QS-04	
D924	8-719-210-39	DIODE EC10QS-04	
D925	8-719-210-39	DIODE EC10QS-04	
D940	8-719-056-74	DIODE UDZ-TE-17-3.0B	
		< GROUND TERMINAL >	
ETP901	1-537-770-21	TERMINAL BOARD, GROUND	
ETP903	1-537-770-21	TERMINAL BOARD, GROUND	
		< IC >	
IC900	8-759-394-35	IC BA12T	
IC902	8-759-450-47	IC BA05T	
IC903	8-759-231-53	IC TA7805S	
IC904	8-759-604-90	IC M5F7907L	
IC905	8-759-604-86	IC M5F7807L	
		< NOISE FILTER >	
L906	1-424-122-11	FILTER, NOISE	
L907	1-424-122-11	FILTER, NOISE	
		< TRANSISTOR >	
Q902	8-729-209-71	TRANSISTOR 2SA1213O-TE12L	
		< RESISTOR >	
R904	1-216-085-00	RES-CHIP 33K 5%	1/10W
⚠R907	1-212-877-11	FUSIBLE 68 5%	1/4W F
R908	1-216-013-00	METAL CHIP 33 5%	1/10W
R912	1-216-295-11	SHORT 0	
R913	1-216-073-00	RES-CHIP 10K 5%	1/10W
R914	1-216-073-00	RES-CHIP 10K 5%	1/10W
R915	1-216-073-00	RES-CHIP 10K 5%	1/10W
R916	1-216-069-00	METAL CHIP 6.8K 5%	1/10W
R917	1-216-069-00	METAL CHIP 6.8K 5%	1/10W
R918	1-216-061-00	RES-CHIP 3.3K 5%	1/10W
R919	1-216-298-00	METAL CHIP 2.2 5%	1/10W
R921	1-216-073-00	RES-CHIP 10K 5%	1/10W
R922	1-216-073-00	RES-CHIP 10K 5%	1/10W
R923	1-216-073-00	RES-CHIP 10K 5%	1/10W
R924	1-216-295-11	SHORT 0	
R925	1-216-295-11	SHORT 0	
R940	1-216-049-11	METAL CHIP 1K 5%	1/10W
R941	1-216-049-11	METAL CHIP 1K 5%	1/10W

****

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POWER SW **PT** **REG** **RF**

Ref. No.	Part No.	Description			Remark
	1-682-032-11	POWER SW BOARD			
		**********			
		< CAPACITOR >			
⚠C601	1-113-924-11	CERAMIC	0.0047uF	20%	250V
		< CONNECTOR/LEAD >			
* CN601	1-580-230-31	PIN, CONNECTOR (PC BOARD) 2P			
CN602	1-792-131-11	LEAD (WITH CONNECTOR)			
		< SWITCH >			
⚠S601	1-572-267-51	SWITCH, PUSH (AC POWER) (1 KEY)(POWER)			
**********					
	1-681-339-11	PT BOARD			
		*********			
		< CAPACITOR >			
C106	1-136-816-11	FILM	0.0022uF	5%	100V
C107	1-163-033-00	CERAMIC CHIP	0.022uF		50V
⚠C151	1-113-924-11	CERAMIC	0.0047uF	20%	250V
		< CONNECTOR >			
* CN104	1-568-943-11	PIN, CONNECTOR 5P			
CN105	1-506-481-11	PIN, CONNECTOR 2P			
* CN151	1-564-525-11	PLUG, CONNECTOR 10P			
* CN152	1-564-517-11	PLUG, CONNECTOR 2P			
* CN153	1-568-226-11	PIN, CONNECTOR 2P			
* CN154	1-568-226-11	PIN, CONNECTOR 2P			
* CN155	1-564-215-11	PIN, CONNECTOR 4P			
		< DIODE >			
D101	8-719-977-22	DIODE DTZ9.1B			
D151	8-719-210-33	DIODE EC10DS2			
D152	8-719-210-33	DIODE EC10DS2			
		< LEAD >			
* NO1	1-690-880-41	LEAD (WITH CONNECTOR)			
		< RESISTOR >			
R101	1-216-085-00	RES-CHIP	33K	5%	1/10W
R103	1-216-295-11	SHORT	0		
R105	1-216-025-11	RES-CHIP	100	5%	1/10W
R106	1-216-025-11	RES-CHIP	100	5%	1/10W
**********					
	1-682-159-11	REG BOARD			
		**********			
		< CAPACITOR >			
C939	1-117-720-11	CERAMIC CHIP	4.7uF		10V
C940	1-117-720-11	CERAMIC CHIP	4.7uF		10V
		< CONNECTOR >			
CN906	1-691-765-11	PLUG (MICRO CONNECTOR) 3P			

Ref. No.	Part No.	Description			Remark
		< IC >			
IC901	8-759-445-59	IC BA033T			
**********					
	A-4726-887-A	RF BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C001	1-164-676-11	CERAMIC CHIP	2200PF	5%	16V
C002	1-164-676-11	CERAMIC CHIP	2200PF	5%	16V
C003	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C004	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C006	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C007	1-117-370-11	CERAMIC CHIP	10uF		10V
C008	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C009	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C010	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C011	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C012	1-164-172-11	CERAMIC CHIP	0.0056uF	10%	25V
C013	1-164-172-11	CERAMIC CHIP	0.0056uF	10%	25V
C014	1-117-370-11	CERAMIC CHIP	10uF		10V
C015	1-117-370-11	CERAMIC CHIP	10uF		10V
C016	1-164-218-11	CERAMIC CHIP	180PF	0.25PF	50V
C017	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C018	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C019	1-117-370-11	CERAMIC CHIP	10uF		10V
C020	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C021	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C022	1-115-416-11	CERAMIC CHIP	0.001uF	5%	25V
C023	1-126-206-11	ELECT CHIP	100uF	20%	6.3V
C024	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C025	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C026	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C027	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C028	1-126-205-11	ELECT CHIP	47uF	20%	6.3V
C029	1-117-370-11	CERAMIC CHIP	10uF		10V
C030	1-128-993-21	ELECT CHIP	22uF	20%	10V
C031	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C032	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C034	1-117-370-11	CERAMIC CHIP	10uF		10V
C036	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C037	1-115-416-11	CERAMIC CHIP	0.001uF	5%	25V
C038	1-126-206-11	ELECT CHIP	100uF	20%	6.3V
C039	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C040	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C041	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C042	1-164-677-11	CERAMIC CHIP	0.033uF	10%	16V
C043	1-164-677-11	CERAMIC CHIP	0.033uF	10%	16V
C044	1-162-959-11	CERAMIC CHIP	330PF	5%	50V
C045	1-115-416-11	CERAMIC CHIP	0.001uF	5%	25V
C046	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C047	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C048	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C050	1-128-993-21	ELECT CHIP	22uF	20%	10V
C051	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C052	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C055	1-126-205-11	ELECT CHIP	47uF	20%	6.3V
C060	1-164-156-11	CERAMIC CHIP	0.1uF		25V

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RF **RM** **SENSOR**

Ref. No.	Part No.	Description			Remark
C064	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C090	1-115-156-11	CERAMIC CHIP	1uF		10V
C094	1-128-993-21	ELECT CHIP	22uF	20%	10V
C095	1-164-156-11	CERAMIC CHIP	0.1uF		25V
		< CONNECTOR >			
CN002	1-770-161-21	PIN, CONNECTOR (PC BOARD) 6P			
CN003	1-794-707-11	CONNECTOR, FFC/FPC 25P			
CN005	1-815-346-11	CONNECTOR, FFC/FPC 30P			
		< DIODE >			
D001	8-719-016-74	DIODE 1SS352			
D002	8-719-016-74	DIODE 1SS352			
		< IC >			
IC001	8-752-403-50	IC CXD1881R			
IC004	8-759-058-45	IC NJM3403AV			
		< COIL >			
L001	1-412-031-11	INDUCTOR CHIP	47uH		
L002	1-412-031-11	INDUCTOR CHIP	47uH		
L003	1-412-031-11	INDUCTOR CHIP	47uH		
		< TRANSISTOR >			
Q001	8-729-805-25	TRANSISTOR	2SB1121-S		
Q002	8-729-805-25	TRANSISTOR	2SB1121-S		
Q003	8-729-805-25	TRANSISTOR	2SB1121-S		
Q005	8-729-027-59	TRANSISTOR	DTC144EKA-T146		
		< RESISTOR >			
R001	1-216-864-11	METAL CHIP	0	5%	1/16W
R002	1-218-668-11	METAL CHIP	100	0.5%	1/16W
R003	1-216-839-11	METAL CHIP	33K	5%	1/16W
R015	1-216-803-11	METAL CHIP	33	5%	1/16W
R016	1-216-821-11	METAL CHIP	1K	5%	1/16W
R017	1-216-817-11	METAL CHIP	470	5%	1/16W
R018	1-216-821-11	METAL CHIP	1K	5%	1/16W
R019	1-216-803-11	METAL CHIP	33	5%	1/16W
R020	1-216-817-11	METAL CHIP	470	5%	1/16W
R021	1-219-570-11	RES-CHIP	10M	5%	1/16W
R022	1-218-718-11	METAL CHIP	12K	0.5%	1/16W
R023	1-216-864-11	METAL CHIP	0	5%	1/16W
R024	1-216-864-11	METAL CHIP	0	5%	1/16W
R025	1-216-864-11	METAL CHIP	0	5%	1/16W
R029	1-216-841-11	METAL CHIP	47K	5%	1/16W
R035	1-216-864-11	METAL CHIP	0	5%	1/16W
R036	1-216-833-11	METAL CHIP	10K	5%	1/16W
R044	1-216-832-11	METAL CHIP	8.2K	5%	1/16W
R046	1-218-668-11	METAL CHIP	100	0.5%	1/16W
R065	1-218-716-11	METAL CHIP	10K	0.5%	1/16W
R066	1-218-716-11	METAL CHIP	10K	0.5%	1/16W
R082	1-216-833-11	METAL CHIP	10K	5%	1/16W
R083	1-216-833-11	METAL CHIP	10K	5%	1/16W
R084	1-216-833-11	METAL CHIP	10K	5%	1/16W
R085	1-216-833-11	METAL CHIP	10K	5%	1/16W
R086	1-216-833-11	METAL CHIP	10K	5%	1/16W
R087	1-216-833-11	METAL CHIP	10K	5%	1/16W

Ref. No.	Part No.	Description			Remark
R093	1-216-803-11	METAL CHIP	33	5%	1/16W
R094	1-216-803-11	METAL CHIP	33	5%	1/16W
R097	1-216-839-11	METAL CHIP	33K	5%	1/16W
R098	1-216-839-11	METAL CHIP	33K	5%	1/16W
**********					
	1-682-035-11	RM BOARD			
		**********			
		< CAPACITOR >			
C816	1-163-033-00	CERAMIC CHIP	0.022uF		50V
C817	1-117-370-11	CERAMIC CHIP	10uF		10V
		< CONNECTOR >			
* CN807	1-568-941-11	PIN, CONNECTOR 3P			
		< IC >			
IC802	8-759-826-32	IC NJL72H400A			
		(REMOTE CONTROL RECEIVER)			
		< RESISTOR >			
R851	1-216-033-00	METAL CHIP	220	5%	1/10W
R852	1-216-025-11	RES-CHIP	100	5%	1/10W
**********					
	1-676-245-11	SENSOR BOARD			
		**********			
		< CONNECTOR >			
CN10	1-750-243-11	SOCKET, CONNECTOR 6P			
		< PHOTO INTERRUPTER/PHOTO SENSOR >			
D10	8-749-924-18	PHOTO INTERRUPTER RPI-1391			
D11	8-749-017-45	SENSOR, PHOTO RPR-220C1N			
		< RESISTOR >			
R10	1-249-416-11	CARBON	820	5%	1/4W
R11	1-249-407-11	CARBON	150	5%	1/4W
R12	1-249-429-11	CARBON	10K	5%	1/4W
**********					

Ref. No.	Part No.	Description	Remark
		MISCELLANEOUS	
		**********	
75	1-690-892-11	WIRE (FLAT TYPE) (12 CORE)	
76	1-500-082-11	CLAMP, SLEEVE FERRITE	
⚠107	1-783-531-31	CORD, POWER	
109	1-757-850-11	WIRE (FLAT TYPE) (30 CORE)	
110	1-775-167-11	WIRE (FLAT TYPE) (19 CORE)	
571	1-791-930-11	WIRE (FLAT TYPE) (6 CORE)	
⚠606	8-820-132-03	OPTICAL PICK-UP BLOCK (KHM230AAA/J1RP)	
607	1-757-097-11	WIRE (FLAT TYPE) (25 CORE)	
S200	1-418-746-11	ENCODER, ROTARY (BU, TABLE ADDRESS DETECT)	
⚠T150	1-431-174-21	TRANSFORMER, POWER	
⚠T151	1-437-300-11	TRANSFORMER, POWER	
M10	A-4735-762-A	MOTOR ASSY, LOADING	
M11	A-4735-761-A	MOTOR ASSY, ROTARY (TRAY)	
**********			
		ACCESSORIES & PACKING MATERIALS	
		**********	
	1-476-601-11	REMOTE COMMANDER (RM-SC500)	
	1-590-925-31	CORD, CONNECTION (RED AND WHITE AUDIO CONNECTING CORD)	
	1-757-960-21	CORD, CONNECTION (BLACK AUDIO CONNECTING CORD)	
	1-777-241-11	CORD, CONNECTION (MONAURAL MINI-PLUG CORD)	
	4-228-696-01	COVER, BATTERY (for RM-SC500)	
	4-235-595-11	MANUAL, INSTRUCTION (ENGLISH, FRENCH)	

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MEMO

REVISION HISTORY

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Ver.	Date	Description of Revision
1.0	2001.07	New
1.1	2006.08	Change of Part No. for Ref. No. 503 on EXPLODED VIEWS (SPM-06042)